25132

SITE ASSESSMENT DECISION - EPA REGION IV

Site Name: Uniroyal, Inc. **EPA ID#:** ALD041511361

Alias Site Names:

City: Opelika **County or Parish:** Lee **State:** AL

Refer to Report Dated: **PA:** **SI:** **Other (report type & date):** SIP 05/27/94

Report developed by: BVWS

DECISION:

|x| 1. **Further Action under Superfund (CERCLA) is not appropriate or required because:**

|x| 1a. No Further Remedial Action (NRAP). Planned | | 1 b. Action Deferred to: | | RCRA | | NRC

| | 2. **Further Investigation Needed Under Superfund:** 2a. Priority: | | Higher | | Lower

2b. Activity Type: | | PA SI | | ESI evaluate HRS score

| | Other:

DISCUSSION/RATIONALE:

No Further Remedial Action Planned.

Report Reviewed and Approved by: Cynthia K. Gurley **Signature:** Cynthia Gurley **Date:** 05/27/94

EPA Form # 9100-3

DATE REPORT ACCEPTED 5-27-94
DISPOSITION NFRAP
SAM SIGNATURE Cynthia Gurley

FINAL
Site Inspection Prioritization

To File

Uniroyal, Inc.
Opelika, Lee County, Alabama
EPA ID № ALD041511361

Prepared for
U.S. Environmental Protection Agency
EPA Work Assignment Contract № 12
EPA Contract № 68-W9-0055

Prepared by
BLACK & VEATCH Waste Science, Inc.
BVWS Project № 52012.193

REC'D
MAY 25 1994

May 18, 1994

Prepared by:	Reviewed by:	Approved by:
Kenneth A. Lewis Site Manager	Bryan Williams Technical Reviewer	Victor Blix Project Manager

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1.0 Introduction

B&V Waste Science and Technology Corp. (BVWST) was retained by the U. S. Environmental Protection Agency (EPA), Waste Management Division, to conduct a Site Inspection Prioritization (SIP) at the Uniroyal, Inc. (Uniroyal) site in Opelika, Lee County, Alabama. This study was performed under the authorization of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The task was performed to satisfy the requirements stated in Work Assignment № 12 under EPA Contract № 68-W9-0055. An off-site reconnaissance was conducted on November 23-24, 1993.

2.0 Site Characterization

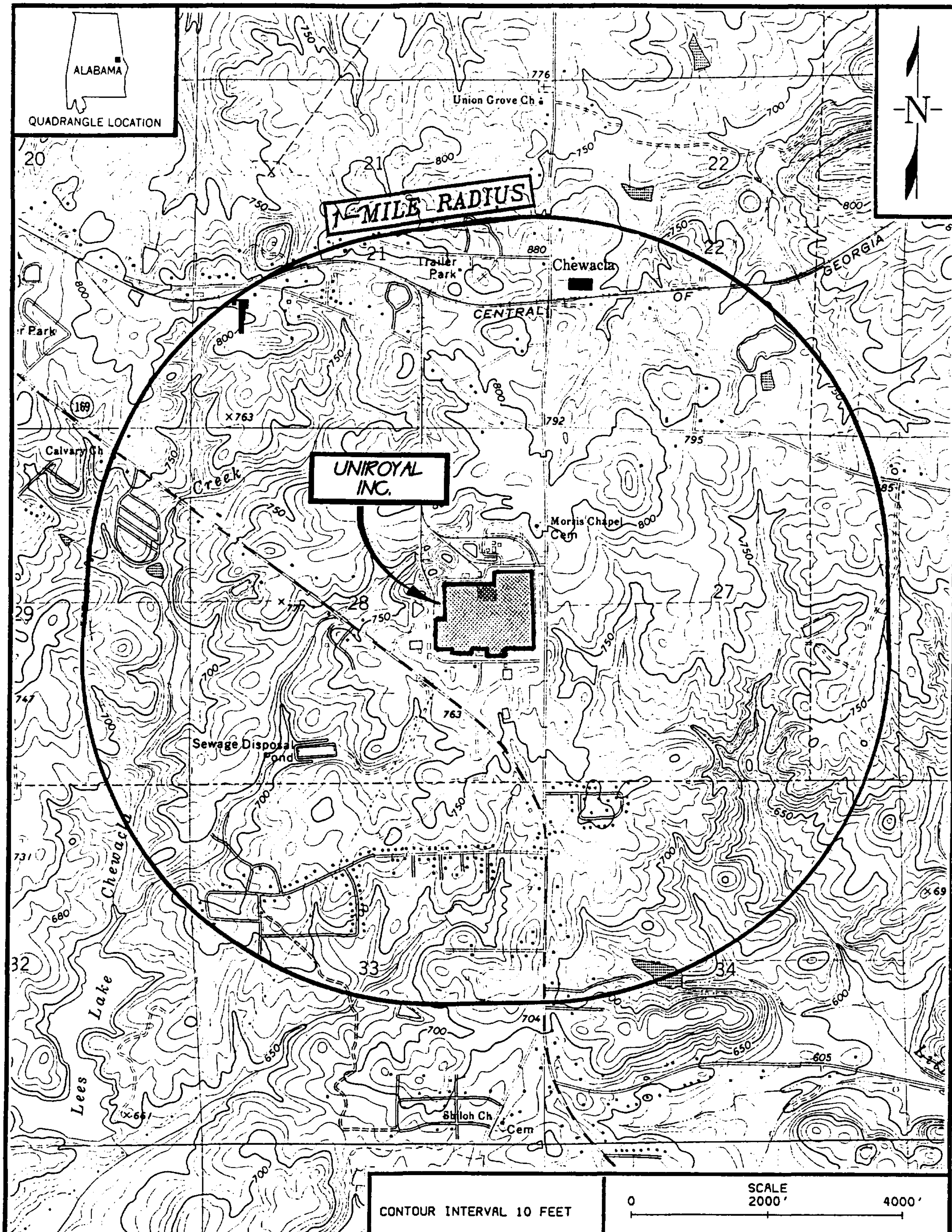
2.1 Site Location

The Uniroyal site is located near the intersection of Alabama Highway 169 and South Uniroyal Road in Opelika, Lee County, Alabama (Ref. 1, p. 3). The geographical coordinates are 32° 36' 29.53" North latitude and 85° 20' 32.05" West longitude (Ref. 2, 3). The topography ranges from approximately 750 to 780 feet above mean sea level (amsl) (Ref. 2). The site is presented in Figure 1. The climate in this area is humid subtropical, characterized by mild winters and hot summers (Ref. 1, p. 10). The average annual precipitation in this area is approximately 52 inches. The mean annual lake evaporation in this area is approximately 43 inches (Ref. 4), yielding a net annual rainfall of 9 inches. The 2-year, 24-hour rainfall in the area is approximately 4.25 inches (Ref. 5).

2.2 Site Description

The Uniroyal (now known as Uniroyal Goodrich Tire Co.) site lies on a 116-acre parcel of property owned by the Industrial Development Board of Opelika (Ref. 6, 7). The site occupies all of the 116 acres except for a gasoline station that exists at the extreme south portion of the property near the intersection of Alabama Highway 169 and South Uniroyal Road (Ref. 8). The manufacturing portion of the site is secured by a chain-link fence and contains one large building (Ref. 2, 8). The site is an active facility (Ref. 8, p.11).

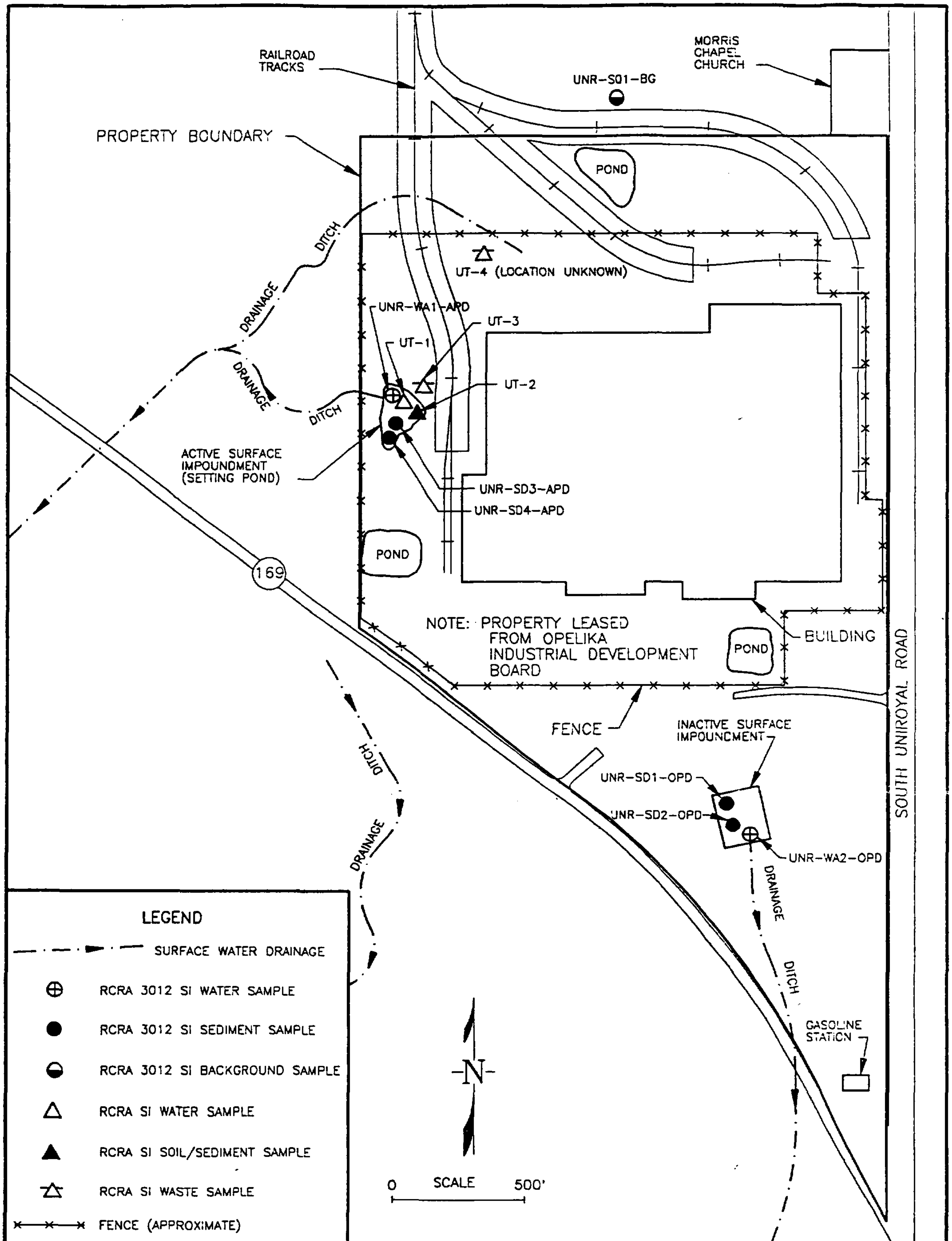
Property surrounding the site is mostly rural (Ref. 2, 8). Residences exist along Alabama Highway 169 across the highway from the site (Ref. 8). The Uniroyal site is surrounded on the north, west, and south by property owned by the Uniroyal Goodrich Tire Co. (Ref. 9). This property does not appear to be used for Uniroyal's manufacturing activities (Ref. 8). A small parcel of property adjacent to the northeast corner of the site is owned by Morris Chapel Church (Ref. 7). The site is bound on the east by South Uniroyal Road and on the south by Alabama Highway 169 (Ref. 2, 7). Property to the east of the site is comprised of two parcels of property owned by East Alabama Paving Co. (on the north) and by Euel A. Screw Jr. (on the south) (Ref. 6, 8). A layout of the site is shown on Figure 2. The site is located in an area of minimal flooding and is not in a 100-year or 500-year



BASE MAP IS A PORTION OF THE USGS 7.5 MINUTE QUADRANGLE OPELIKA EAST, ALA. 1983 & PARKERS CROSSROADS, ALA. 1983.

SITE LOCATION MAP
UNIROYAL INC.
OPELIKA, LEE COUNTY, ALABAMA

FIGURE 1



SITE LAYOUT MAP
UNIROYAL GOODRICH TIRE COMPANY
OPELIKA, LEE COUNTY, ALABAMA

FIGURE 2

Insert Figure 1
Site Location Map

Insert Figure 2
Site Layout Map

floodplain (Ref. 10). A majority of the site is located within the city limits of Opelika, Alabama except for the southern tip of the property (Ref. 11).

2.3 Operational History and Waste Characteristics

2.3.1 Operational History

Uniroyal began manufacturing tires at the site in 1963. Wastes generated from this process consists mainly of rubber cement and waste oil (Ref. 1, p. 3). As a part of its operation, Uniroyal maintained two onsite surface impoundments (lagoons) that received process wastewater and stormwater potentially contaminated with organic compounds. These surface impoundments were components of Uniroyal's National Pollutant Discharge Elimination System (NPDES) discharge system. At the time of the RCRA 3012 Site Inspection in January 1985, one of the surface impoundments was active while the other was inactive. Early in the site's history, stormwater runoff entering Little Uchee Creek from the site was monitored and found to contain trace concentrations of six organic compounds (Ref. 1, p. 4). At that time, the City of Opelika was obtaining raw water from a spring located on Little Uchee Creek approximately 2.5 miles downstream of the site. As a result of the public concern, Uniroyal diverted stormwater runoff from the facility so that runoff would not enter Little Uchee Creek. Since that time, one of the surface impoundments has been inactive. The date in which Uniroyal discontinued use of the surface impoundment is unknown. In addition, the date in which Uniroyal ceased discharging to Little Uchee Creek is unknown. The inactive lagoon is located south of the manufacturing portion of the site near Alabama Highway 169. The second surface impoundment (also called a settling pond) is located west of the manufacturing building (Ref. 1, p. 4).

In March 1985, Uniroyal personnel noticed a spill of waste oil at the site. Approximately 1,000 gallons of skimmed waste oil was inadvertently released from a mixer inside the facility. This quantity of oil overloaded the oil separator basin and resulted in a discharge of waste oil into the settling pond. At the time of the RCRA Sampling Investigation on March 28, 1985, a slight oily film was present on the pond surface and the soil around the edges of the pond was stained (Ref. 12, p. 1).

In 1974, Uniroyal was maintaining up to four wastewater discharge outfalls from the site to Chewacla Creek (Ref. 13). These outfalls appear to be Uniroyal's NPDES discharge outfalls. Table 1 lists the outfalls and related information. The Uniroyal site has been regulated under a NPDES permit since its inception (Ref. 1, p. 4)

Table 1
NPDES Discharges to Chewacla Creek
Uniroyal, Inc.
Opelika, Lee County Alabama

Outfall №	Origin of Wastewater	Treatment Prior to Discharge
001	Wastewater from dust collectors and condensate from tire molding plant.	Treated in settling pond.
002	Wastewater from the wet dust collectors; overflow from tire thread cooler; and boiler blowdown.	Treated in oil separator, settling pond, and a straw filter.
003	Cooling tower blowdown and surface water runoff.	Untreated.
004	Surface water runoff only.	Unknown.
Source: Ref. 13		

In 1980, Uniroyal submitted a RCRA Part A permit application (Ref. 1, p. 4). On January 11, 1983, Uniroyal withdrew its RCRA Part A Permit application and requested generator status only (Ref. 14). On April 14, 1983, the Alabama Department of Environmental Management (ADEM) granted Uniroyal's request to withdraw the RCRA Part A permit application (Ref. 15). The Uniroyal Goodrich Tire Co. is currently a large quantity generator of hazardous waste (Ref. 16).

2.3.2 Waste Characteristics

The active surface impoundment is triangular in shape with sides approximately 120 feet in length. The inactive surface impoundment is rectangular in shape with sides 80 and 100 feet in length (Ref. 1).

The six organic compounds identified in site wastewater and stormwater that was routed through the surface impoundments were nitropropane, diisopropylcarbinal, isophorone, benzothiazole, t-butylphenol, and trichlorophenol (Ref. 13, 17). The source of these chemicals is believed to be from the use of accelerators in the manufacturing process (Ref. 17).

Four wastewater discharges from the site to Chewacla Creek were sampled and analyzed for organic compounds by a gas chromatograph/flame ionization detector in November 1974 by USEPA. Outfalls 002, 003, and 004 were sampled by collecting aliquots from the outfall at hourly intervals for a 24-hour composite sample. Outfall 001 was not discharging during the activity, thus a grab sample was collected directly from the settling pond (Ref. 13). Table 2 summarizes the analytical results from this event. Following this event, Uniroyal and USEPA continued to monitor wastewater discharges from the site under Permit Nº AL0000621 through the early 1980s (Ref. 18). The same six organic compounds, in addition to 2-nitropropane, were detected in wastewater. Between 1976 and 1983, the maximum concentration of each compound detected was: nitropropane at a concentration of 6,200 ppb, diisopropylcarbinal at 10 ppb, isophorone at 95 ppb, benzothiazole at 480 ppb, t-butylphenol at 25 ppb, trichlorophenol at 76 ppb, and 2-nitropropane at 68 ppb (Ref. 18).

The two surface impoundments were investigated in a RCRA 3012 Site Inspection conducted by Environmental Protection Systems, Inc. on January 9, 1985. Surface water and sediment samples were collected from both impoundments. A background soil sample was also collected during this activity (Ref. 1, p. 5). Table 3 summarizes the samples collected during the inspection. Samples were analyzed for acid extractable and base neutral extractable priority pollutant organics in addition to benzothiazole. Mercury was also analyzed in some sediment samples. Analyses results indicate that base neutral and acid extractable organics were not detected above the detection limit (0.01 ppm) in any samples. In addition, mercury and benzothiazole were not detected above the individual detection limits of 0.001 mg/kg and 0.01 ppm, respectively. Sample Nº UNR-WA2-OPD, a water sample from the inactive surface impoundment, exploded after the sample had been extracted with solvent. The explosion occurred when the extracted sample was placed in water. The cause of the explosion is known (Ref. 1, p. 15). As a result, base neutral organic compound content in the sample was not determined.

The active lagoon, or the settling pond, also received 1,000 gallons of skimmed waste oil as a result of a spill in March 1985 (Ref. 12, p. 1). Table 4 summarizes the samples collected during the RCRA Sampling Investigation conducted by the USEPA to investigate the incident. The waste oil was sampled and analyzed for sixteen metals and some organics. Table 5 presents a summary of the analytes detected in samples of the spilled waste oil collected from the oil separator (Sample ID UT-3) and from waste oil remaining in the storage tank (Sample ID UT-4). EP toxicity was also performed on these samples for mercury only. Mercury was not detected above its detection limit (0.004 mg/L) under the EP toxicity analyses in either waste oil sample. Table 6 presents a summary of the analytical results from soil/sediment and water samples collected during the RCRA Sampling Investigation. PCBs, pesticides, and cyanide were not detected in the settling pond water sample (Ref. 12).

Uniroyal also generated waste rubber cement (Ref. 1, 17, 19). Waste rubber cement is recorded as a RCRA D001 (ignitable) waste (Ref. 19). Uniroyal utilized a variety of disposal options for the rubber cement. Disposal during early years of operation included offsite disposal in the Opelika and Tallapoosa landfills (Ref. 17). Uniroyal also used several hazardous waste disposal facilities for this waste stream (Ref. 19). Records do not indicate that waste rubber cement was discharged into the two surface impoundments.

Uniroyal also generated waste oil (Ref. 1, p. 3, 17, 19). Waste oil was burned onsite, under a permit, for energy recovery for a period of time (Ref. 1 p.3, 17). Waste oil was also landfilled in a local landfill during the early years of operation (Ref. 1, p. 3). Records also indicate that waste oil was shipped offsite for disposal (Ref. 19).

Uniroyal also generated a waste arsenic mixture. This waste stream was disposed of at offsite hazardous waste facilities (Ref. 19). Little information is available about this waste stream, thus the source is not known.

Uniroyal also generated 22 55-gallon drums of off-specification virgin paint. A sample (Sample ID UT-5) of the waste paint was collected during the RCRA Sampling Investigation (Ref. 12).

Table 2
Summary of Wastewater Discharge Analyses
Uniroyal, Inc.
Opelika, Lee County, Alabama

Analyte	Outfall №			
	001	002	003	004
Metals (µg/L)				
Chromium	NA	<50	NA	NA
Zinc	NA	83	NA	NA
Organics (mg/L)				
Isophorone	--	--	0.018	0.033
Nitropropane	--	0.12	0.11	6.2
Trichlorophenol	--	--	0.076	--
Benzothiazole	--	--	--	0.019
T-butylphenol	--	--	--	0.025
Other Parameters				
Oil & Grease (mg/L)	NA	<5	NA	NA
Suspended Solids (mg/L)	NA	20	NA	NA
pH	NA	8.9	NA	NA

Notes:

Ref. 13
-- Parameter analyzed for but not detected
NA Analysis was not conducted for this parameter
U Entry in Ref. 13 data table is unexplained

Table 3
Sample Summary from RCRA 3012 Site Investigation
Uniroyal, Inc.
Opelika, Lee County, Alabama

Sample ID	Matrix	Location	Analysis
UNR-S01-BG	Soil	Background sample taken to the rear of the plant and the railroad tracks.	Base neutral and acid extractable organics, benzothiazole, and mercury
UNR-WA1-APD	Water	Grab from active surface impoundment.	Base neutral and acid extractable organics, and benzothiazole
UNR-SD3-APD	Sediment	Composite of sediments from active surface impoundment.	Base neutral and acid extractable organics, benzothiazole, and mercury
UNR-SD4-APD	Sediment	Composite of sediments from active surface impoundment.	Base neutral and acid extractable organics, benzothiazole, and mercury
UNR-SD1-OPD	Sediment	Composite of sediments from inactive surface impoundment.	Base neutral and acid extractable organics, benzothiazole, and mercury
UNR-SD2-OPD	Sediment	Composite of sediments from the inactive surface impoundment.	Base neutral and acid extractable organics, and benzothiazole
UNR-WA2-OPD	Water	Water from boomed area in inactive surface impoundment.	Base neutral and acid extractable organics, and benzothiazole

Notes:

Source: Ref. 1

Table 4
Sample Summary from RCRA Sampling Investigation
Uniroyal, Inc.
Opelika, Lee County, Alabama

Sample ID	Sample Type	Analyses	Description
UT-1	Water	Metals, Cyanide Ext. Org.[a] Purg. Org.	The sample was collected from the settling pond discharge at the overflow weir.
UT-2	Soil/Sediment	Metals	The sample was collected from stained soil/sediment around the east end of the settling pond at the waters edge, and adjacent to the oil separator/skimmer discharge pipe.
UT-3	Waste Oil	Metals, EP Toxicity[b]	The sample was collected from the oil separator located adjacent to and east of the settling pond.
UT-4	Waste Oil	Metals, Ext. Org.[a] Purg. Org. EP Toxicity[b]	The sample was collected from the skimmed oil storage tank located behind the power house. The oil from this tank is used in the facility's boiler.
UT-5	Waste Paint	Metals	The sample was collected from one of 22 55-gallon drums of virgin off-spec paint used to protect tire "white-walls" during shipment.

Notes:

Source: Ref. 12

[a] Including PCBs and pesticides.

[b] Metals only.

Table 5
Summary of Spilled Waste Oil Analyses
Uniroyal, Inc.
Opelika, Lee County, Alabama

Analyte	Waste Oil from Skimmer UT-3	Waste Oil from Storage Tank UT-4
Metals (mg/kg)		
Copper	200	--
Lead	34	17
Zinc	2,000	1,500
Aluminum	700	--
Iron	4,200	--
Purgeable Organic Compounds (mg/kg)		
Toluene	NA	20
Ethylbenzene	NA	24
m-Xylene	NA	68
o,p-Xylene (mixed)	NA	97

Notes:

Source: Ref. 12
-- Parameter analyzed for but not detected
J Estimated valve
NA Analysis not conducted for this parameter

Table 6
Summary of Water and Soil/Sediment Samples
Uniroyal, Inc.
Opelika, Lee County, Alabama

Analyte	UT-1 (µg/L)	UT-2 (mg/kg)
Metals		
Barium	38	85
Chromium	--	40
Copper	65	240
Lead	--	50
Strontium	64	8.5
Titanium	--	810
Vanadium	--	36
Yttrium	--	7.5
Zinc	870	2,700
Mercury	--	--
Aluminum	890	28,000
Manganese	45	70
Calcium	28,000	1,600
Magnesium	3,200	2,000
Iron	1,500	23,000
Sodium	69,000	--
Extractable Organics		
Isophorone	1,800 A	NA
Trimethylcyclobenzene	60 JN	NA
Benzothiazole	30 JN	NA
C8 Alkylphenol (3 isomers)	100 JN	NA
C9 Alkylphenol	30 JN	NA
Purgeable Organic Compounds		
Chloroform	8.4	NA
Ethylbenzene	6.8	NA
M-xylene	16	NA
O&P Xylene	9.4	NA
Acetone	1,300	NA
Carbon Disulfide	20 J	NA
Methyl Isobutyl Ketone	10 J	NA

Notes:

Source: Ref. 12
-- Parameter analyzed for but not detected
A Averaged value based on two or more observations
J Estimated valve
N Presumptive evidence indicates presence of material
NA Analysis was not conducted for this parameter

3.0 Groundwater Pathway

3.1 Hydrogeologic Setting

The Uniroyal site is located 2.5 miles southeast of the urban portion of Opelika, Alabama, in central Lee County (Ref. 2). The Opelika area lies in the Southern Piedmont Upland physiographic district, a subdivision of the Piedmont Upland which is part of the Appalachian Highlands division of the Piedmont physiographic province (Ref. 20). This area is a dissected upland occurring on schist and gneiss bedrock with local elevations ranging from 550 feet to 900 feet amsl (Ref. 2, 20). The Uniroyal facility is situated at approximately 770 feet amsl (Ref. 2).

Soil beneath the Uniroyal facility is classified as belonging to the Pacolet-Cecil soil association. These soils are deep and well-drained, which exhibit a loamy surface layer with a clayey subsoil formed in residuum of granite, gneiss, and schist of the Piedmont Plateau (Ref. 21, General Soil Map). More specifically, the soil type under and surrounding the Uniroyal facility is considered to be urban land (Ref. 21, Sheet 23). Urban land is soil that has been extensively covered by asphalt, concrete, or structures which is so disturbed by cutting, filling, and altering that they cannot be classified (Ref. 21, p. 26).

The Uniroyal facility is situated in a geologically transitional area. The Uniroyal site lies between two fault zones: the Towaliga fault zone is about 4.2 miles north of the site, and the Goat Rock fault zone is roughly 3.0 miles southeast of the site (Ref. 22, Plate 1, Figure 2). The Fall Line which marks the boundary between the crystalline rocks of the Piedmont and the sedimentary strata of the Coastal Plain lies approximately 3.7 miles south of site (Ref. 23).

The Uniroyal site lies on part of the Whatley Mill Gneiss outcrop area, which is a unit of the Precambrian to Paleozoic age Wacoochee Complex (Ref. 23). A geologic cross section located about two miles southwest of the site indicates the presence of the three Wacoochee Complex members extending to a depth of at least 5,000 feet below sea level (Ref. 23). In addition to the Whatley Mill Gneiss, the two other members are: the Halawaka Schist and Phelps Creek Gneiss (Ref. 23). The rocks of the Wacoochee Complex crop out in a belt southeast of Opelika. This belt is 10 miles wide and trends northeast. Foliation planes of the metamorphic rocks dip to the southeast. The rocks consist predominately of garnetiferous-biotite schist and quartz-muscovite schist with some granite gneiss, biotite augen gneiss, quartzite, marble, and dolomite (Ref. 22, p. 10). Above the bedrock, deep and erratic chemical weathering extends 50 to 100 feet bls. This decomposed, weathered, untransported material is called saprolite (Ref. 22, p. 7).

Saprolite and bedrock both are water-bearing units. Saprolite, generally, has greater storage capacities for groundwater and feeds groundwater steadily below to fractures in the bedrock. Fractures in bedrock decrease in size and in number with depth. In fact, interconnecting fractures rarely occur at depths greater than 200 feet (Ref. 22, p. 12).

The thickness of saprolite in the Wacoochee Belt ranges from 10 to 200 feet and averaged 50 feet (Ref. 22, p. 10).

Well depths range from 150 to 300 feet and generally yield less than 25 gallons per minute. Insignificant well yields in Lee County make groundwater a low priority resource; in fact, little groundwater is used for public water supplies. Most towns and cities that formerly used groundwater presently use surface water (Ref. 22, p. 1).

The depth to the water table at the Uniroyal site is approximately 25 feet bls, and the groundwater flow direction is estimated to be southeasterly (Ref. 2).

3.2 Groundwater Pathway Targets

Area to the south of the Uniroyal site is served by Beauregard Water Works. Beauregard Water Works receives raw water from three groundwater wells in the area (Ref. 8, p. 16). Two of these wells are located approximately 3.5 miles southwest of the site (Ref. 2). Beauregard Water Works has two connections with Opelika Water Works (Ref. 2). Although, one connection is an emergency connection that has never been used, the other connection is open continuously because Beauregard Water Works purchases approximately 50,000 gallons per month (1.2 gpm) of drinking water from Opelika Water Works. Beauregard Water Works has not provided Opelika Water Works with drinking water (Ref. 24). Beauregard Water Works provides water to 1,891 connections. Based on 2.50 persons per household (Ref. 25), approximately 4,728 people are served by Beauregard Water Works.

A large area east of the Uniroyal site and a smaller area west of the site are currently not served by a public water utility. Smiths Water Authority currently has plans to expand into the area east of the site. In addition, Smiths Water Authority has approval from the State of Alabama for this expansion. However, it will be several years before the service is activated because construction has not yet begun (Ref. 8, p. 17). A house count determined that 142 residences exist in these two unserved areas (Ref. 2). Based on 2.50 persons per household in Lee County, Alabama (Ref. 25), approximately 356 people are not served with public water. Table 7 summarizes the private well population for each radius increment.

A groundwater spring, Spring Villa, exists approximately 1.5 miles southeast of the site (Ref. 2). Spring Villa is a public recreation area operated by the City of Opelika. Spring Villa currently has a park and a swimming pool which is fed by groundwater from the spring. The pool operates during the summer months. Fishing is not allowed at Spring Villa (Ref. 26).

Table 7
Summary of Private Wells
Uniroyal, Inc.
Opelika, Lee County, Alabama

Radius Increment (miles)	Private Wells	Population
0 - ¼	0	0
¼ - ½	1	3
½ - 1	8	20
1 - 2	46	115
2 - 3	17	43
3 - 4	70	175
Total	142	356
Ref. 2, 25		

4.0 Surface Water Pathway

4.1 Hydrologic Setting

There are two surface water pathways for surface water runoff leaving the site. Little Uchee Creek is located approximately 0.75 miles east of the site while Chewacla Creek is located approximately 0.75 mile west of the site (Ref. 1, 2).

Surface water from the northeast portion of the site and the entire eastern edge of the site flows toward South Uniroyal Road. Surface water along South Uniroyal Road converges at a location near the middle of the east side of the site. At this central location, surface water runoff flows beneath South Uniroyal Road to an unnamed tributary of Little Uchee Creek (Ref. 2, 8). Little Uchee Creek flows southwesterly from the site (Ref. 2, 27). This surface water pathway terminates in Little Uchee Creek (Ref. 27).

Surface water from a majority of the site flows south and west toward Alabama Highway 169. Surface water along the highway appears to have three pathways to Chewacla Creek (Ref. 8). At the north portion of the site, runoff flows into an unnamed tributary of Chewacla Creek upgradient of Lees Lake. Lees Lake is located approximately 1.5 miles southwest of the Uniroyal site (Ref. 2). Surface water at the middle of the site along 169 Highway flows beneath the highway to restricted property posted "Opelika Sewage Pond" (Ref. 8). At this point, runoff flows to the sewage pond. Runoff exits the pond into an unnamed tributary of Chewacla Creek upstream of Lees Lake (Ref. 2). Surface water along the highway at the south portion of the site flows into an unnamed tributary of Chewacla Creek downstream of Lees Lake (Ref. 2, 8).

Chewacla Creek flows south away from the site into Lees Lake (Ref. 2). Chewacla Creek then flows south of Lees Lake to approximately 4 miles from the site where it begins to flow in a westerly direction (Ref. 2). Chewacla Creek flows west into Lake Ogletree and then through Chewacla State Park. This surface water pathway terminates in Chewacla Creek (Ref. 28).

The average flow rate of Little Uchee Creek prior to its mergence with Phelps Creek is approximately 11.6 cubic feet per second (cfs). The average flow rate of Chewacla Creek downstream of Lees Lake is approximately 6.86 cfs (Ref. 29).

4.2 Surface Water Targets

Surface water is the sole source of drinking water for Opelika Water Works. Opelika Water Works receives raw water from Lake Harding and Lake Sougahatchee (Ref. 8). Lake Harding is located approximately 14 miles east of the site on the Chattahoochee River (Ref. 11). Lake Sougahatchee is located approximately two miles northwest of Opelika, Alabama, approximately 5 miles northwest of the Uniroyal site (Ref. 11). Neither of these sources are in the extended surface water pathway (Ref. 2, 11).

Opelika Water Works formerly used Spring Villa as a source of raw water (Ref. 1 p. 4, 8). However, Opelika Water Works discontinued use of Spring Villa and does not plan to use it again (Ref. 8). Opelika Water Works provides water to approximately 30,000 people and distributes approximately 4.5 million gallons of water per day (Ref. 8).

Smiths Water Authority provides water to a small area within a 4-mile radius of the site (Ref. 2). Smiths Water Authority receives raw water solely from Lake Oliver (Ref. 8). Lake Oliver is located on the Chattahochee River approximately 17 miles northeast of the site and is not in the site's extended surface water pathway (Ref. 11).

The City of Auburn Water Works Board receives raw drinking water from Lake Ogletree (Ref. 29). Lake Ogletree, in Chewacla Creek, is in the 15-mile extended surface water pathway of the site (Ref. 28). The City of Auburn Water Works Board uses Lake Ogletree as a source of 95 percent of its drinking water. Five percent of Auburn's drinking water is purchased from Opelika Water Works. The City of Auburn Water Works Board has two connections with Opelika Water Works. Each connection is located at the city limits with one located on Hamilton Road and the other on Opelika Road. The City of Auburn Water Works Board serves drinking water to approximately 10,500 connections (Ref. 30). Based on 2.50 persons per household in Lee County, Alabama (Ref. 25), approximately 26,250 people are provided with drinking water.

Wetland areas are located along both extended surface water pathways (Ref. 2, 27, 28). There is approximately 1.5 miles of wetlands along Little Uchee Creek (Ref. 2) and approximately 0.5 mile of wetlands along Chewacla Creek (Ref. 28). Chewacla Creek is used for private fishing and water contact activities in the Chewacla Creek State Park (Ref. 31, 32). Private lakes and ponds located on both creeks are also likely to be a resource of private fishing and recreation (Ref. 32).

There are several terrestrial federally protected endangered species that range in the area of the site. Two of these species, the Indiana bat (*Myotis sodalis*) and the red-cockaded woodpecker (*Picoides borealis*), may utilize waters along the surface water pathway, although these species have not been identified in site investigations (Ref. 33). There are no other endangered species known to inhabit surface waters along the extended surface water pathway (Ref. 31, 34).

5.0 Soil Exposure and Air Pathways

5.1 Physical Conditions

A majority of the Uniroyal site is located within the city limits of Opelika, Alabama. The southern tip of the property is not within the city limits (Ref. 11). The site is situated on approximately 116 acres of land (Ref. 6, 7). The site contains a number of surface impoundments (ponds or lagoons), a network of railroad tracks and roads including a large parking lot, and one large building for manufacturing (Ref. 2, 7). The area containing process activities is fenced with a chain-link fence. The fence appears to include the active surface impoundment, but not the inactive surface impoundment (Ref. 8, p.1).

5.2 Soil and Air Targets

Private homes exist along Alabama 169 Highway with 0.25 mile of the site (Ref. 2, 8). The nearest school is Southern School approximately 2 miles west of the site (Ref. 11). The nearest residence is adjacent to the west side of the site along Alabama 169 Highway (Ref. 2, 8). Within a four-mile radius of the site, a wide variety of land uses are present including urban, residential, and industrial. A majority of the area within a four-mile radius of the site is rural (Ref. 2). The Goodrich Uniroyal Tire Co. currently employs 1,500 people at the site (Ref. 34).

According to estimates made by the Graphic Exposure Modeling System (GEMS), there are no people within a 0.5-mile radius of the site (Ref. 35). However, a house count reveals that there are three residences within a 0.25-mile radius of the site (Ref. 2). Based on 2.50 persons per household (Ref. 25), there are 8 people within a 0.25-mile radius. From the 0.25 to 0.5-mile radius, there are 27 residences or 68 people (Ref. 2, 25). According to GEMS, there are 1,306 people within the 0.5 to 1-mile radius and no residences from a 1 to 2-miles radius. A house count in the 1 to 2-mile radius reveals that there are 323 residences or 808 people (Ref. 2, 25). According to GEMS, there are 5,912 people from a 2 to 3-mile radius and 6,436 from a 3 to 4-mile radius (Ref. 35). Totaling the GEMS estimates and house counts estimates, whichever is greater, there are 14,538 people within a 4-mile radius of the site. Table 8 summarizes the population data within a 4-mile radius of the site.

Lee County Public Lake is a public recreation area located 4 miles south-southeast of the site (Ref. 2, 32).

Table 8
Summary of Population Data
Uniroyal, Inc.
Opelika, Lee County, Alabama

Radius Increment (miles)	Total Houses	Population
0 - ¼	3	8
¼ - ½	27	68
½ - 1	NA	1,306
1 - 2	323	808
2 - 3	NA	5,912
3 - 4	NA	6,436
Total		14,538
Ref. 2, 25		

Federally endangered species ranging in the Lee County area are the Indiana bat, red-cockaded woodpecker, and the relict trillium (*Trillium reliquum*) (Ref. 33). Although, these species have not been identified onsite in site investigations.

6.0 Summary and Conclusions

Uniroyal operated two surface impoundments at the site that were used to treat and contain wastewater and stormwater prior to discharge. These surface impoundments received wastewater contaminated with organic compounds. One surface impoundment received 1,000 gallons of waste oil as a result of a spill. Contaminants found to be associated with impoundments in site investigations in water and sediments are barium, chromium, copper, lead, aluminum, manganese, magnesium, calcium, strontium, titanium, vanadium, iron, yttrium, zinc, isophorone, trimethylcyclobenzene, benzothiazole, C8 alkylphenol, C9 alkylphenol, chloroform, ethylbenzene, m-xylene, o and p-xylene, acetone, carbon disulfide, and methyl isobutyl ketone.

Groundwater at the site has not been investigated to determine if it has been impacted by the surface impoundments. The groundwater pathway is of some concern because a large area to the east of the site is not served with public drinking water. It is likely that these people rely on groundwater for drinking water. In addition, Beauregard Water Works maintains two public water supply wells in the 3 to 4-mile radius of the site. Furthermore, Spring Villa, located 1.5 miles southeast of the site, uses groundwater to feed a public swimming pool.

Most surface water runoff from the site flows to unnamed tributaries of Chewacla Creek. Downstream of the site on Chewacla Creek are both Lees Lake and Lake Ogletree as well as Chewacla State Park. These areas are used for public and private fishing and water-body contact activities. In addition, wetland areas exist along Chewacla Creek. Lake Ogletree is a source of drinking water for Auburn, Alabama. There are no endangered species inhabiting Chewacla Creek. Some runoff from the site flows into Little Uchee Creek. Little Uchee Creek also has wetland areas and is likely a resource of private fishing. Furthermore, wetland areas exist along Little Uchee Creek. The surface water pathway is of concern.

The soil pathway is of some concern because access to the site by the public is partially restricted. The old inactive surface impoundment is not included in the chain-link fence surrounding the process area. The active impoundment is included in the fenced portion of the site. In addition, approximately 1,500 people are employed at the site.

The air pathway is of some concern because contaminants including volatile organics have been identified in the active surface impoundment. In addition, employees are onsite near the active lagoon. Furthermore, access to the inactive surface impoundment is unrestricted.

Based on the information in this report, no further actions are recommended at the Uniroyal site.

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Confidential
Hazard Ranking System Preliminary Score
Uniroyal, Inc.
Opelika, Lee County, Alabama
EPA ID № ALD041511361

The preliminary score for the Uniroyal, Inc. site has been calculated using November 1992 SI worksheets. Pathways evaluated include groundwater, surface water, soil exposure, and air. Sources of contamination at the Uniroyal site are two surface impoundments used to treat and contain process wastewater and stormwater containing organic compounds. One surface impoundment, referred to as the active surface impoundment, also received waste oil as a result of a spill. The site has been treated as a multi-source site with two surface impoundments. The total area for both sources is 14, 240 ft^2. The hazardous waste quantity score for the two sources is 100.

Groundwater at the site has not been investigated; thus, there is only a potential to release. The Opelika, Alabama area exhibits non-Karst geology. Most residences with a 4-mile radius of the site are served by a public water system. However, two sparsely populated areas exist in the 4 mile radius that rely on private wells for drinking water. A total of 356 people in the 4-mile radius rely on groundwater. Beauregard Water Works also operates two public water wells in the 3 to 4 mile radius of the site. These wells provide approximately 2/3 of the water distributed by Beauregard Water Works to 4,728 people. The groundwater pathway score is 4.19. In Scenario 2, it is assumed that an observed release to groundwater has occurred in which the groundwater pathway score increases to 14.72.

Two surface water pathways exist from the site. A majority of the surface water flows into Chewacla Creek approximately 0.75 miles west of the site. Some surface water flows into Little Uchee Creek approximately 0.75 miles east of the site. Surface water near the site has not been sampled to determine if it has been impacted by the site. Both creeks, including connected ponds and lakes, are a resource of private fishing and water contact activities. Wetlands exist along both surface water pathways. Chewacla Creek flows into Lake Ogletree which is a drinking water source for Auburn, Alabama. Chewacla Creek flows at 6.86 cfs south of Lees Lake and is estimated to increase to 10 to 100 cfs farther downstream at Lake Ogletree. The large population value provided by the surface water intake is the driving force of the surface water pathway score. There are no endangered species inhabiting Chewacla Creek or Little Uchee Creek. There are no aquatic endangered species occurring downstream of the site. The surface water pathway score is 7.11. In Scenario 2, it is assumed that an observed release to surface water has occurred in which the surface water pathway score increases to 45.41.

The soil pathway score is 3.2. The soil pathway score is driven by the presence of 1,500 employees at the site and the existence of endangered species in the area of the site. The soil pathway is of little concern.

The air pathway score is 7.20. The air pathway score is driven by the large number of employees at the site and the endangered species in the area of the site.

The maximum HRS score for the Uniroyal, Inc., based on the conservative scoring assumptions of observed releases to groundwater and surface water, is 24.19, below the cutoff value. It is therefore recommended that no further action be conducted at this site.

Scenario 1

This scenario includes potential to release to groundwater and potential to release to surface water.

$$
\begin{aligned}
S_{sw} &= 4.19 \\
S_{sw} &= 7.11 \\
S_{so} &= 3.20 \\
S_{air} &= 7.46 \\
\hline
\textbf{HRS Score} &= \textbf{5.79}
\end{aligned}
$$

Scenario 2

This scenario consists of an observed release to groundwater and an observed release to surface water.

$$
\begin{aligned}
S_{sw} &= 14.72 \\
S_{sw} &= 45.41 \\
S_{so} &= 3.20 \\
S_{air} &= 7.20 \\
\hline
\textbf{HRS Score} &= \textbf{24.19}
\end{aligned}
$$

HRS Scoresheets

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Likelihood of Release to an Aquifer	Maximum Value	Aquifer 1 Assigned Value	Aquifer 2 Assigned Value	Aquifer 3 Assigned Value
1. Observed Release	550	0	0	0
2. Potential to Release				
2a. Containment	10	10	0	0
2b. Net Precipitation	10	10	0	0
2c. Depth to Aquifer	5	5	0	0
2d. Travel Time	35	35	0	0
2e. Potential to Release (lines 2a x (2b+2c+2d)	500	500	0	0
3. Likelihood of Release (higher of lines 1 and 2e.)	550	500	0	0
Waste Characteristics				
4. Toxicity/Mobility	a	100	0	0
5. Hazardous Waste Quantity	a	100	0	0
6. Waste Characteristics	100	10	0	0
Targets				
7. Nearest Well	50	18	0	0
8. Population				
8a. Level I Concentrations	b	0	0	0
8b. Level II Concentrations	b	0	0	0
8c. Potential Contamination	b	46.1	0	0
8d. Population (lines 8a+8b+8c)	b	46.1	0	0
9. Resources	5	5	0	0
10. Wellhead Protection Area	20	0	0	0
11. Targets (lines 7+8d+9+10)	b	69.1	0	0
Groundwater Migration Score for an Aquifer				
12. Aquifer Score [(lines 3 x 6 x 11)/82,500]	100	4.19	0.00	0.00
Groundwater Migration Pathway Score				
13. Pathway Score (Sgw) – Highest value for all aquifers evaluated	100		$\boxed{4.19}$	

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

DRINKING WATER THREAT

Likelihood of Release	Maximum Value	Watershed 1 Assigned Value	Watershed 2 Assigned Value
1. Observed Release	0	0	0
2. Potential Release by Overland Flow			
2a. Containment	10	10	10
2b. Runoff	25	3	3
2c. Distance to Surface Water	25	6	6
2d. Potential to Release by Overland Flow lines 2a x (2b + 2c)	500	90	90
3. Potential to Release by Flood			
3a. Containment	10	0	0
3b. Flood Frequency	50	0	0
3c. Potential to Release by Flood (Lines 3a x 3b)	500	0	0
4. Potential to Release (lines 2d + 3c)	500	90	90
5. Likelihood of Release (Higher of lines 1 and 4)	550	90	90
Waste Characteristics			
6. Toxicity/Persistence	a	1000	1000
7. Hazardous Waste Quantity	a	100	100
8. Waste Characteristics	100	32	32
Targets			
9. Nearest Intake	50	0	0
10. Population			
10a. Level I Concentrations	b	0	0
10b. Level II Concentrations	b	0	0
10c. Potential Contamination	b	163	0
10d. Population (lines 10a+10b+10c)	b	163	0
11. Resources	5	5	5
12. Targets (lines 9+10d+11)	b	168	5
Drinking Water Threat Score			
13. Drinking Water Threat Score [(lines 5 x 8 x 12)/82500)]	100	5.86472727	0.17454545

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (continued)

HUMAN FOOD CHAIN THREAT

	Maximum Value	Watershed 1 Assigned Value	Watershed 2 Assigned Value
Likelihood of Release			
14. Likelihood of Release (Same as line 5)	550	90	90
Waste Characteristics			
15. Toxicity/Persistence/Bioaccumulation	a	500000000	500000000
16. Hazardous Waste Quantity	a	100	100
17. Waste Characteristics	1000	320	320
Targets			
18. Food Chain Individual	50	2	20
19. Population			
19a. Level I Concentrations	b	0	0
19b. Level II Concentrations	b	0	0
19c. Potential Human Food Chain Contamination	b	0	0
19d. Population (lines 19a+19b+19c)	b	0	0
20. Targets (lines 18+19d)	b	2	20
Human Food Chain Threat Score			
21. Human Food Chain Threat Score [(lines 14 x 17 x 20)/82500)]	100	0.69818182	6.98181818

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (continued)

ENVIRONMENTAL THREAT

Likelihood of Release	Maximum Value	Watershed 1 Assigned Value	Watershed 2 Assigned Value
22. Likelihood of Release (Same as line 5)	550	90	90
Waste Characteristics			
23. Ecosystem Toxicity/Persistence/Bioaccumulation	a	5000000	5000000
24. Hazardous Waste Quantity	a	100	100
25. Waste Characteristics	1000	100	100
Targets			
26. Sensitive Environments			
26a. Level I Concentrations	b	0	0
26b. Level II Concentrations	b	0	0
26c. Potential Environmental Contamination	b	5	2.5
26d. Population (lines 26a+26b+26c)	b	5	2.5
27. Targets (value on lines 26d)	b	5	2.5
Environmental Threat Score			
28. Environmental Threat Score [(lines 22 x 25 x 27)/82500)]	60	0.54545455	0.27272727

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE – WATERSHED

	Maximum Value	Watershed 1	Watershed 2
29. Watershed Score (Lines 13 +21+28)	100	7.10836364	0.44727273

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE – WATERSHED

	Maximum Value	
30. Watershed Score (Highest of all watersheds)	100	$\boxed{7.11}$

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

SOIL EXPOSURE PATHWAY SCORESHEET

RESIDENT POPULATION THREAT

	Maximum Value	Assigned Value
Likelihood of Exposure		
1. Likelihood of Exposure	550	550
Waste Characteristics		
2. Toxicity	a	10000
3. Hazardous Waste Quantity	a	100
4. Waste Characteristics	100	32
Targets		
5. Resident Indivudual	50	0
6. Resident Population		
6a. Level I Concentrations	b	0
6b. Level II Concentrations	b	0
6c. Resident Population (lines 6a+6b)	b	0
7. Workers	15	15
8. Resources	5	0
9. Terrestrial Sensitive Environments	c	0
10. Targets (lines 5+6c+7+8+9)	b	15
Resident Population Threat Score		
11. Resident Population Threat [(lines 1 x 4 x 10)/82500)]	b	3.2

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a max of 60.

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

SOIL EXPOSURE PATHWAY SCORESHEET
(continued)

NEARBY POPULATION THREAT

Likelihood of Exposure	Maximum Value	Assigned Value
12. Attractiveness/Accessibility	100	5
13. Area of Contamination	100	20
14. Liklihood of Exposure	500	5
Waste Characteristics		
15. Toxicity	a	10000
16. Hazardous Waste Quantity	a	100
17. Waste Characteristics	100	32
Targets		
18. Nearby Indivudual	1	1
19. Population Within One Mile	b	1.08
20. Targets (lines 18+19)	b	2.08
Nearby Population Threat Score		
21. Nearby Population Threat [(lines 14 x 47 x 20)/82500)] (Minimum value of 2)	b	0.00403394

SOIL EXPOSURE PATHWAY SCORE

	Maximum Value	Assigned Value
22. Soil Exposure Pathway Score (Ss) (Lines 11 + 21)	100	3.20

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a max of 60.

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

AIR MIGRATION PATHWAY SCORESHEET

Likelihood of Release	Maximum Value	Assigned Value
1. Observed Release	550	0
2. Potential to Release		
2a. Gas Potential to Release	500	0
2b. Particulate Potential to Release	500	0
2e. Potential to Release (Higher of lines 2a and 2b)	500	500
3. Likelihood of Release (higher of lines 1 and 2e.)	a	500
Waste Characteristics		
4. Toxicity/Mobility	a	1000
5. Hazardous Waste Quantity	a	100
6. Waste Characteristics	100	18
Targets		
7. Nearest Individual	50	20
8. Population		
8a. Level I Concentrations	b	0
8b. Level II Concentrations	b	0
8c. Potential Contamination	b	45.9
8d. Population (lines 8a+8b+8c)	b	45.9
9. Resources	5	0
10. Sensitive Environments		
10a. Actual Contamination	c	0
10b. Potential Contamination	c	2.47
10c. Sensitive Environments (lines 10a+10b)	c	2.47
11. Targets (lines 7+8d+9+10c)	b	68.37
AIR PATHWAY SCORE		
12. Pathway Score (Sa) [(lines 3 x 6 x 11)/82500]	100	7.46

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a max of 60.

HRS Scoresheets

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 1)*

SITE SCORING SUMMARY

Groundwater Migration Pathway Score	4.19
Surface Water Migration Pathway Score	7.11
Soil Exposure Migration Pathway Score	3.20
Air Migration Pathway Score	7.46
Overall Site Score	5.79

HRS Scoresheets

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

GROUNDWATER MIGRATION PATHWAY SCORESHEET

Likelihood of Release to an Aquifer	Maximum Value	Aquifer 1 Assigned Value	Aquifer 2 Assigned Value	Aquifer 3 Assigned Value
1. Observed Release	550	550	0	0
2. Potential to Release				
2a. Containment	10	10	0	0
2b. Net Precipitation	10	10	0	0
2c. Depth to Aquifer	5	5	0	0
2d. Travel Time	35	35	0	0
2e. Potential to Release (lines 2a x (2b+2c+2d)	500	500	0	0
3. Likelihood of Release (higher of lines 1 and 2e.)	550	550	0	0
Waste Characteristics				
4. Toxicity/Mobility	a	10000	0	0
5. Hazardous Waste Quantity	a	100	0	0
6. Waste Characteristics	100	32	0	0
Targets				
7. Nearest Well	50	18	0	0
8. Population				
8a. Level I Concentrations	b	0	0	0
8b. Level II Concentrations	b	0	0	0
8c. Potential Contamination	b	46	0	0
8d. Population (lines 8a+8b+8c)	b	46	0	0
9. Resources	5	5	0	0
10. Wellhead Protection Area	20	0	0	0
11. Targets (lines 7+8d+9+10)	b	69	0	0
Groundwater Migration Score for an Aquifer				
12. Aquifer Score [(lines 3 x 6 x 11)/82,500]	100	14.72	0.00	0.00
Groundwater Migration Pathway Score				
13. Pathway Score (Sgw) – Highest value for all aquifers evaluated	100		$\boxed{14.72}$	

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

DRINKING WATER THREAT

Likelihood of Release	Maximum Value	Watershed 1 Assigned Value	Watershed 2 Assigned Value
1. Observed Release	550	550	550
2. Potential Release by Overland Flow			
2a. Containment	10	10	10
2b. Runoff	25	3	3
2c. Distance to Surface Water	25	6	6
2d. Potential to Release by Overland Flow lines 2a x (2b + 2c)	500	90	90
3. Potential to Release by Flood			
3a. Containment	10	0	0
3b. Flood Frequency	50	0	0
3c. Potential to Release by Flood (Lines 3a x 3b)	500	0	0
4. Potential to Release (lines 2d + 3c)	500	90	90
5. Likelihood of Release (Higher of lines 1 and 4)	550	550	550
Waste Characteristics			
6. Toxicity/Persistence	a	1000	1000
7. Hazardous Waste Quantity	a	100	100
8. Waste Characteristics	100	32	32
Targets			
9. Nearest Intake	50	0	0
10. Population			
10a. Level I Concentrations	b	0	0
10b. Level II Concentrations	b	0	0
10c. Potential Contamination	b	163	0
10d. Population (lines 10a+10b+10c)	b	163	0
11. Resources	5	5	5
12. Targets (lines 9+10d+11)	b	168	5
Drinking Water Threat Score			
13. Drinking Water Threat Score [(lines 5 x 8 x 12)/82500)]	100	35.84	1.07

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (continued)

HUMAN FOOD CHAIN THREAT

	Maximum Value	Watershed 1 Assigned Value	Watershed 2 Assigned Value
Likelihood of Release			
14. Likelihood of Release (Same as line 5)	550	550	550
Waste Characteristics			
15. Toxicity/Persistence/Bioaccumulation	a	500000000	500000000
16. Hazardous Waste Quantity	a	100	100
17. Waste Characteristics	1000	320	320
Targets			
18. Food Chain Individual	50	2	20
19. Population			
19a. Level I Concentrations	b	0	0
19b. Level II Concentrations	b	0	0
19c. Potential Human Food Chain Contamination	b	0	0
19d. Population (lines 19a+19b+19c)	b	0	0
20. Targets (lines 18+19d)	b	2	20
Human Food Chain Threat Score			
21. Human Food Chain Threat Score [(lines 14 x 17 x 20)/82500)]	100	4.27	42.67

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET (continued)

ENVIRONMENTAL THREAT

Likelihood of Release	Maximum Value	Watershed 1 Assigned Value	Watershed 2 Assigned Value
22. Likelihood of Release (Same as line 5)	550	550	550
Waste Characteristics			
23. Ecosystem Toxicity/Persistence/Bioaccumulation	a	5000000	5000000
24. Hazardous Waste Quantity	a	100	100
25. Waste Characteristics	1000	100	100
Targets			
26. Sensitive Environments			
26a. Level I Concentrations	b	0	0
26b. Level II Concentrations	b	0	0
26c. Potential Environmental Contamination	b	5	2.5
26d. Population (lines 26a+26b+26c)	b	5	2.5
27. Targets (value on lines 26d)	b	5	2.5
Environmental Threat Score			
28. Environmental Threat Score [(lines 22 x 25 x 27)/82500)]	60	3.33	1.67

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE – WATERSHED

29. Watershed Score (Lines 13 +21+28)	100	43.44	45.41

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE – WATERSHED

30. Watershed Score (Highest of all watersheds)	100	$\boxed{45.41}$

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c Do not round to nearest integer

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

SOIL EXPOSURE PATHWAY SCORESHEET

RESIDENT POPULATION THREAT

	Maximum Value	Assigned Value
Likelihood of Exposure		
1. Likelihood of Exposure	550	550
Waste Characteristics		
2. Toxicity	a	10000
3. Hazardous Waste Quantity	a	100
4. Waste Characteristics	100	32
Targets		
5. Resident Indivudual	50	0
6. Resident Population		
6a. Level I Concentrations	b	0
6b. Level II Concentrations	b	0
6c. Resident Population (lines 6a+6b)	b	0
7. Workers	15	15
8. Resources	5	0
9. Terrestrial Sensitive Environments	c	0
10. Targets (lines 5+6c+7+8+9)	b	15
Resident Population Threat Score		
11. Resident Population Threat [(lines 1 x 4 x 10)/82500)]	b	3.2

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a max of 60.

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

SOIL EXPOSURE PATHWAY SCORESHEET
(continued)

NEARBY POPULATION THREAT

Likelihood of Exposure	Maximum Value	Assigned Value
12. Attractiveness/Accessibility	100	5
13. Area of Contamination	100	20
14. Liklihood of Exposure	500	5
Waste Characteristics		
15. Toxicity	a	10000
16. Hazardous Waste Quantity	a	100
17. Waste Characteristics	100	32
Targets		
18. Nearby Indivudual	1	1
19. Population Within One Mile	b	1.08
20. Targets (lines 18+19)	b	2.08
Nearby Population Threat Score		
21. Nearby Population Threat [(lines 14 x 47 x 20)/82500)] (Minimum value of 2)	b	0.00403394

SOIL EXPOSURE PATHWAY SCORE

	Maximum Value	Assigned Value
22. Soil Exposure Pathway Score (Ss) (Lines 11 + 21)	100	$\boxed{3.20}$

a Maximum value ap[plies to waste characteristics category
b Maximum value not applicable
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a max of 60.

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

AIR MIGRATION PATHWAY SCORESHEET

Likelihood of Release	Maximum Value	Assigned Value
1. Observed Release	550	0
2. Potential to Release		
2a. Gas Potential to Release	500	0
2b. Particulate Potential to Release	500	0
2e. Potential to Release (Higher of lines 2a and 2b)	500	500
3. Likelihood of Release (higher of lines 1 and 2e.)	a	500

Waste Characteristics		
4. Toxicity/Mobility	a	1000
5. Hazardous Waste Quantity	a	100
6. Waste Characteristics	100	18

Targets		
7. Nearest Individual	50	20
8. Population		
8a. Level I Concentrations	b	0
8b. Level II Concentrations	b	0
8c. Potential Contamination	b	44
8d. Population (lines 8a+8b+8c)	b	44
9. Resources	5	0
10. Sensitive Environments		
10a. Actual Contamination	c	0
10b. Potential Contamination	c	2
10c. Sensitive Environments (lines 10a+10b)	c	2
11. Targets (lines 7+8d+9+10c)	b	66

AIR PATHWAY SCORE		
12. Pathway Score (Sa) [(lines 3 x 6 x 11)/82500]	100	7.20

a Maximum value applies to waste characteristics category
b Maximum value not applicable
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a max of 60.

RCRA 3012 SITE INSPECTION REPORT

FOR

UNIROYAL INCORPORATED
ALD0-1511361
OPELIKA, ALABAMA
SITE INSPECTION
January 9, 1985

Presented to:

Alabama Department of Environmental Management
Montgomery, Alabama

Presented by:

Environmental Protection Systems, Inc.
Jackson, Mississippi
Pensacola, Florida
Mobile, Alabama

Project No. 1.84.174.01
April, 1985

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Uniroyal Incorporated has manufactured tires at this site since 1963. Prior to their occupation of this site, the land was forested. The waste materials consist of waste rubber cement (about 30 drums per year) and waste oil. Waste oil was burned under a permit for heat recovery.

The RCRA 3012 site investigation focused on two surface impoundments used in their NPDES system. These surface impoundments potentially received water which contained organic contamination. The waters and sediments were analyzed for possible priority pollutants organics. Analytical results did not confirm the presence of any priority pollutant organics (acid extractables or base neutrals). No volatile organics analyses were performed at this site. The water sample from the inactive surface impoundment exploded during preparation for base neutral organic analyses. The cause for this violent reaction is unknown. Based on this, it is recommended that this former surface impoundment be analyzed for volatile organics and flash point to determine if it represents a hazard at the plant site. In addition, base neutral organic contamination has yet to be determined. Based on the laboratory's experience with this sample, extreme care must be taken in the handling of samples from this area.

Current activities are being regulated by ADEM under generator status. Current analyses of ten drums of material from varying sources across the plant site indicated EP Toxic levels of mercury in several of the drums. The source of this mercury is undetermined at this time. In addition, several of the drums were both ignitable and corrosive. The State of

Alabama's solid waste regulations indicate that this combination is potentially reactive. ADEM personnel are aware of this situation and this is being handled through the ADEM offices.

2.0 BACKGROUND

2.1 Location

The Uniroyal site is at the following location:

Uniroyal Incorporated
Highway 169
Opelika, Alabama 36801
Lee County (081)
Latitude 32o 36' 46"
Longitude 85o 20' 33"

Refer to Exhibit 2.1 for maps indicating location of the plant facility.

2.2 Site Layout

The site layout can be seen in Exhibit 2.2. Uniroyal Inc. owns property on both sides of Highway 169. The surface impoundments, both active and inactive, are located north of Highway 169 and are indicated on the map. Railroad tracks are located to the north and west of the facility and a storage area is located due north of the plant building.

2.3 Ownership History

Uniroyal Incorporated has owned this site since 1963. Prior to 1963, the land was used for forestland.

2.4 Site Use History

Uniroyal Inc. began manufacturing tires at this site in 1963. Waste materials at this site consist mainly of rubber cement and waste oil. Waste oil was burned under a permit for some period of time, and some waste oil was also landfilled during early years of operation. ADEM files indicate that they have disposed rubber and gasoline wastes at local landfills, specifically, the Opelika Landfill. During the early years of operation, there was some public concern about water discharges to Little Uchee Creek. The outfall from the this facility was directly upstream from the community drinking water supply intake. Trace levels of six organic compounds were found in storm water runoff. This storm was diverted through ponds on the site and the company discharged this water to the creek. After some discussion, Uniroyal agreed to divert this water to another creek in the area which would not impact the public water supply. Since that time, one of these ponds has been abandoned and the company currently uses a settling pond on the site.

2.5 Permit and Regulatory History

This site has been regulated under an NPDES permit since its inception. The ADEM files document a long regulatory history. In 1980, the facility filed a RCRA Part A application. The filing was protective, in that they burned waste oil for energy and since waste oil was potentially regulated as hazardous, they anticipated that this would be classified as treatment. As this was not the case, the Part A application was withdrawn in 1983. The facility is currently regulated by ADEM under generator status only. This facility has been inspected recently and compliance history is documented in the ADEM solid waste files.

2.6 Remedial Actions to Date

During the early year of operation, the files indicate that there was public concern about water discharges from the Uniroyal facility. The facility was discharging wastewater into a creek directly upstream from a public water supply intake. After some discussion with the regulatory agency, Uniroyal agreed to divert waters to another creek in the area.

Since that time, there appears to be no history of non-compliance with Clean Water Act regulations.

Rubber cement from the facility was placed in drums for an unknown period. These drums were stored on a farm in the area. Uniroyal removed these drums from the farm prior to RCRA regulation. Since that time, disposal practices are documented in generator reports.

2.7 Summary Trip Report

Environmental Protection Systems, Inc. (EPS), conducted a RCRA 3012 site investigation of the Uniroyal facility on January 9, 1985. Weather conditions were cool and clear. The team consisting of Paul J. Bierstine, P.E. and Billy A. Warden, E.I.T., arrived at the site at 9:00 a.m. They met with Mr. Palmer Peterson of Uniroyal Incorporated. The sampling plan was discussed with specific emphasis on the areas to be sampled. At this time, Mr. Peterson indicated that some information included in the preliminary assessment was recorded in err. He was unaware of any furnace at the facility which contained mercury. He did indicate that ten drums of waste material recently analyzed from the site contained mercury; however, he was unaware of its source.

Sampling began at approximately 9:30 a.m. when a background sample was taken from the rear of the plant near the fence and railroad tracks (UNR-S01-BG). The next area to be investigated was the active surface impoundment. A water grab was taken (UNR-WA1-ATV). In addition, two sediment samples were taken (UNR-SD3-APD) and (UNR-SD4-APD). Next, the sampling team inspected the inactive surface impoundment. A water grab was taken from the area where a floating boom was present (UNR-WA2-OPD). Behind the boom, the water surface appeared to have a filmy sheen. In addition, the water appeared black and oily. Two sediment samples were also taken at this site (UNR-SD1-OPD) and (UNR-SD2-OPD). After completion of the sampling, Mr. Peterson was given a sample receipt and the sampling team left the site.

3.0 ENVIRONMENTAL SETTING

3.1 Topography

Refer to Exhibit 2.1 for topographic map of the site and surrounding area. This map indicates that the Uniroyal facility is located in an area typical of the Piedmont Upland section. This area is described as a region of rolling hills of moderate relief. The plant site appears to be graded for industrial use. The major streams of the area occupy valleys from 75 to 150 feet below the upland surface.

3.2 Surface Waters

Public drinking water records indicate the City of Opelika obtains its drinking water from Saugahatchee Lake, located northwest of the city. A water quality station is maintained here. Examination of the topographic map and other maps of the area indicate two major creeks in the immediate area. Little Uchee Creek is located to the east and Chewacla Creek is located to the west of the site. Lees Lake is located approximately two miles southwest of Uniroyal and receives water from Chewacla Creek. The general area is not subject to seasonal flooding from these creeks. Little Uchee Creek flows near a spring approximately 2 1/2 miles southeast of the south. This spring is a source for the City of Opelika Public drinking water supply.

3.3 Geology and Soils

Opelika and the surrounding area lies in the Piedmont Upland section of the Piedmont Province in the Appalachian Highlands. The Piedmont region in east central Alabama is a maturely dissected surface that is underlain by igneous and metamorphic rocks of pre-Cambrian and Paleozoic age. Most of the Piedmont can be described as region of rolling hills of moderate relief with the major streams occupying valleys from 100 to 200 feet below the upland surface. The southern margin of the province marks the contact between crystalline rocks of the Piedmont and sedimentary rocks of the Coastal Plain. Approximately eight miles south west of the site, in the Chewacla State Park, is the Towaliga Fault Zone. This zone is a shallow gorge and is characterized by natural exposures of mylonite zones. The area around Opelika is generally underlain by quartz formations and these are the water-bearing units. The soils in the area, from shallowest to deepest, are Musella-Gwinnett-Hiwassee type. These soils are characterized as loamy soils which are well drained and only moderately permeable. The dominant slope in this soil type ranges from 1 - 25 %. The soil is generally strongly acidic with the pH range of 5.1 - 5.5. Less than 25 % of the land is classed as prime farmland. Drilling logs in the area indicate that the depth to bed rock is between 80 - 125 feet.

3.4 Groundwater

Throughout Lee County groundwater is available from sand and gravel beds of Cretaceous and younger deposits, from igneous and metamorphic rocks, and from fractures and solution cavities as well as other openings in the rocks. The groundwater movement in Lee County generally conforms to the configuration of the land surface. In the area around Opelika, water is confined in artesian aquifers and the movement was generally southward. Springs are indicated throughout the area, and in fact, Opelika obtains some of their water from a spring within 2.5 miles of the Uniroyal Site. The review of well logs for wells north of Uniroyal indicate that the depth to groundwater is approximately 10 - 20 feet with the drilled depth to water of about 50 feet. Other wells in the area tap quartz and gneiss at depths ranging from 75-120 feet. The Tuscaloosa group and Cambrian and Ordovician aquifers are listed as potentially significant in Lee County. The Tuscaloosa group aquifers are generally to the south of Opelika as are their recharge areas. Additionally, Opelika and the areas to the south of Opelika are located in the Piedmont aquifer where wells tapping solution cavities in marble or quartzite yields of from 0.1-1 MGD (Refer to Exhibit 3.4).

The Piedmont aquifer is characterized by various igneous and metamorphic group geologic formations. Their composition is generally saprolite, schist, gneiss, granite and marble. Small amounts of water may be found in the upper few hundred feet of the crystalline basement fractures. These fractures are usually minute and tend to become smaller and less numerous with increasing depth. Overlying the crystalline basin of the Piedmont is a layer of saprolite. The water characteristics of this layer vary widely with location and thickness, but generally there is more water available from the saprolite overburden and from the basement. Saprolite thickness varies from nil to in excess of 50 feet. The composition of the saprolite ranges from predominately clays in areas underlying the schist to predominately sand areas underlain by gneiss and granite. Water quality in the Piedmont is usually good with a fairly soft water, low total dissolved solids content. Water flow through the saprolite material is high due to the often porous of the saprolite. This suggests a high pollution potential for the Piedmont upland province, as any contaminant could move rapidly through the aquifers system. It should be noted however that in some areas saprolite may have weathered to a clay and formed an impervious layer that may extend over tens or even hundreds of square miles. Somewhat less significant in the area are the Tuscaloosa group aquifers. They are composed primarily of the Tuscaloosa group undifferentiated Coker and Gordo formations. Their composition is primarily sand and gravel. Water quality in these aquifers is usually good and usually soft, however it is hard in local areas.

3.5 Climate and Meteorology

The climate of Alabama is generally classified as humid sub-tropical, having mild winters and hot summers with precipitation during all months. Snow seldom falls in the southern one-half of the state and climatic data stations in the state indicate no average monthly temperatures below freezing. More specifically the Opelika area has an annual precipitation of 56 inches. The annual evaporation is approximately 39.4 inches with net precipitation of 16.6 inches. The heaviest precipitation is received in the winter and spring with the largest evaporation in the spring and summer. The annual snowfall is recorded at 0.4 inches. Seasonal temperatures range from the winter average of 47.2° F. to the summer average of 78.9° F. In Alabama, there is no strong prevailing wind direction. The prevailing direction in the Opelika area is listed as generally to the south at a mean speed of 6.7 mile per hour.

3.6 Land Use

The area in and around the Uniroyal site.extending northwards to the Chewacla is classified as industrial use. To the east and west of the site, the land use is classified as forested land. Immediately to the south and northwest of the site, the areas are residential. Specifically, two trailer parks are located along the highway and its vicinity. The population center of Opelika is located approximately northwest of the site. Only small sections of the land are classified for cropland and pasture. This is estimated ten percent of the land.

3.7 Population Distribution

The 1980 census indicated that the population was approximately 22,000. To the west of Opelika lies Auburn. As these communities are immediately adjacent to one another the population of both of these will be considered. The 1980 census indicates the population of both these areas to be approximately 55,000 people. Nearly 65% of the salaried work force of Lee County is employed in two major activities; manufacturing - 29.2, and government - 35.2. Predominance by government employment is directly related to Auburn University. Manufacturing is distributed among over 60 plants. Agriculture plays an important but secondary role in the local economy. The major agriculture product is cattle followed by cotton and corn. A color coded map is available in the land use section of reference 7. See Exhibit 3.7 for urban area. The Uniroyal facility is located southeast of the population center of Opelika. There are single family dwellings located in 3-4 acre lots along the highway leading from Opelika to Uniroyal with scattered industrial areas.

3.8 Water Supply

The city of Opelika gets some of its public water supply from the Sougahatchee Lake. This lake is located to the north and west of the population center of Opelika. The Opelika water supply is also taken from a spring located southeast of Uniroyal. Water purchased from Auburn is used as an emergency supply. Auburn's source is surface water. Several non-community water supplies are located to the north of the Uniroyal site. The average yield of these sites is between 3 and 500 gpm. These non-community water supplies generally serve trailer parks and it is estimated that 150 to 200 people are served per trailer park. Generally water is encountered between 16 to 80 feet. See Exhibit 3.8 for water supply records.

3.9 Critical Environments

There are no indications that this site lies within a critical habitat for any endangered, however, there are some sections in close proximity to the Opelika area with are note areas of archaeological significance as well as scenic trails and roads. Range maps for endangered and threatened species on the Federal and or Alabama list indicate that the following species are of concern:

Species Common Name	Range	Status
Indiana bat	Central Alabama	Endangered (Fed)
Gray bat	Eastern 2/3 Alabama	Endangered (Fed)
Bald eagle	Statewide	Endangered (Fed)
Golden-eagle	Statewide	Endangered (AL)
Red-cockaded woodpecker	South of Tennessee River	Endangered (Fed)
Peregrine falcon	Statewide	Endangered (Fed)
Osprey	Statewide	Endangered (Fed)

4.0 WASTE TYPES AND QUANTITIES

4.1 Waste Quantities

Current wastes generated at this facility are regulated by ADEM. Prior to 1980, there were no records kept about waste being generated. The prime concern of this investigation was residual organic contamination potentially present in surface impoundments on the site. The active surface impoundment is triangular shaped and is approximately 120 feet per side. The old, inactive surface impoundment is roughly square and each side is roughly 80-100 feet in length. Analyses for priority pollutant organics did not reveal any contamination of these sediments. Therefore, if any hazardous materials are present in these sediments, they are undetermined at this time. It should also be noted that in 1984 an effort was made to gather any unidentified materials present on the site and dispose of them. In this effort, ten drums of material were collected and analyzed. The analyses are recorded in the ADEM files and a copy has been presented in Exhibit 4.1. These analyses indicated that a large amount of mercury was present in some of the materials. The source of this mercury is unknown at this time. Current waste quantities generated are documented in generator reports in Exhibit 4.1.

4.2 Waste Disposal Methods and Locations

The preliminary assessment of this facility indicted that during the early year of operation, much of the waste from this facility went to local landfills. Wastewater was handled through an NPDES permit. In this process, the company has used surface impoundments. These impoundments still exist on the facility. One is located to the west of the plant building (the active impoundment) and the inactive is located to the south of the building. Waste oil has been burned in boiler on the facility. Ignitable waste is currently being sent to Chemical Waste Management.

4.3. Waste Types

The company reports two basic waste types being generated at this facility. The first is waste oil, which is burned in the boiler, the second is ignitable waste which is classified or characterized as rubber cement. The company indicates that they have not used lead oxide for catalyst in their process and only zinc oxide has been used. Therefore, it is unlikely that any lead waste would be present at this site. Rainwater runoff from this facility has been analyzed since the mid 1970's. Six organic chemicals have been found in the storm water runoff. These area nitropropane, diisopropyl carbinol, isophorone, benzothiazole, butyl phenol, and trichlorophenol. The source of this material is unknown.

5.0 LABORATORY DATA

5.1 Summary

The sample stations used in this investigation can be described as follows:

Station Number	Matrix	Station
UNR-S01-BG	Soil	Background sample taken to the rear of the plant and the railroad tracks.
UNR-WA1-APD	Water	Grab from active surface impoundment.
UNR-SD3-APD	Sediment	Composite of sediments from active surface impoundment.
UNR-SD4-APD	Sediment	Composite of sediments from active surface impoundment.
UNR-SD1-OPD	Sediment	Sediments from old inactive surface impoundment.
UNR-SD2-OPD	Sediment	Composite of sediments from the old inactive surface impoundment.
UNR-WA2-OPD	Water	Water from boomed area in inactive surface impoundment.

Analytical results and quality control information is presented in Exhibit 5.1. The sampling locations are indicated on Exhibit 2.2 Site Layout sketch. To summarize these results, no acid extractables or base neutral priority pollutant organics were found in any of the samples. A very important note is that the sample from the former surface impoundment, UNR-WA2-OPD, exploded during its processing. The lab indicated that this material was extracted into the appropriate organic solvent and upon placement in a water bath for evaporation, the material exploded, destroying both the sample and glassware. The entire sample had been used for extraction and therefore, the cause of its volatility could not be determined.

5.2 Quality Assurance Review

All sample collection, sample preservation and chain-of-custody procedures used during this investigation were conducted in accordance with the standard operating procedures as specified in the Quality Control/Quality Assurance Plan for the Analytical and Environmental Division of Environmental Protection Systems, Inc., revised August 31, 1984. All laboratory analyses and quality assurance procedures used during this investigation were conducted in accordance with standard procedures and protocols as specified in the Quality Control/Quality Assurance Plan for the Analytical and Environmental Division of Environmental Protection Systems, Inc., revised August 31, 1984, or as specified by the existing United States Environmental Protection Agency standard procedures and protocols for the contract analytical laboratory program. No deficiencies or suspect data were noted.

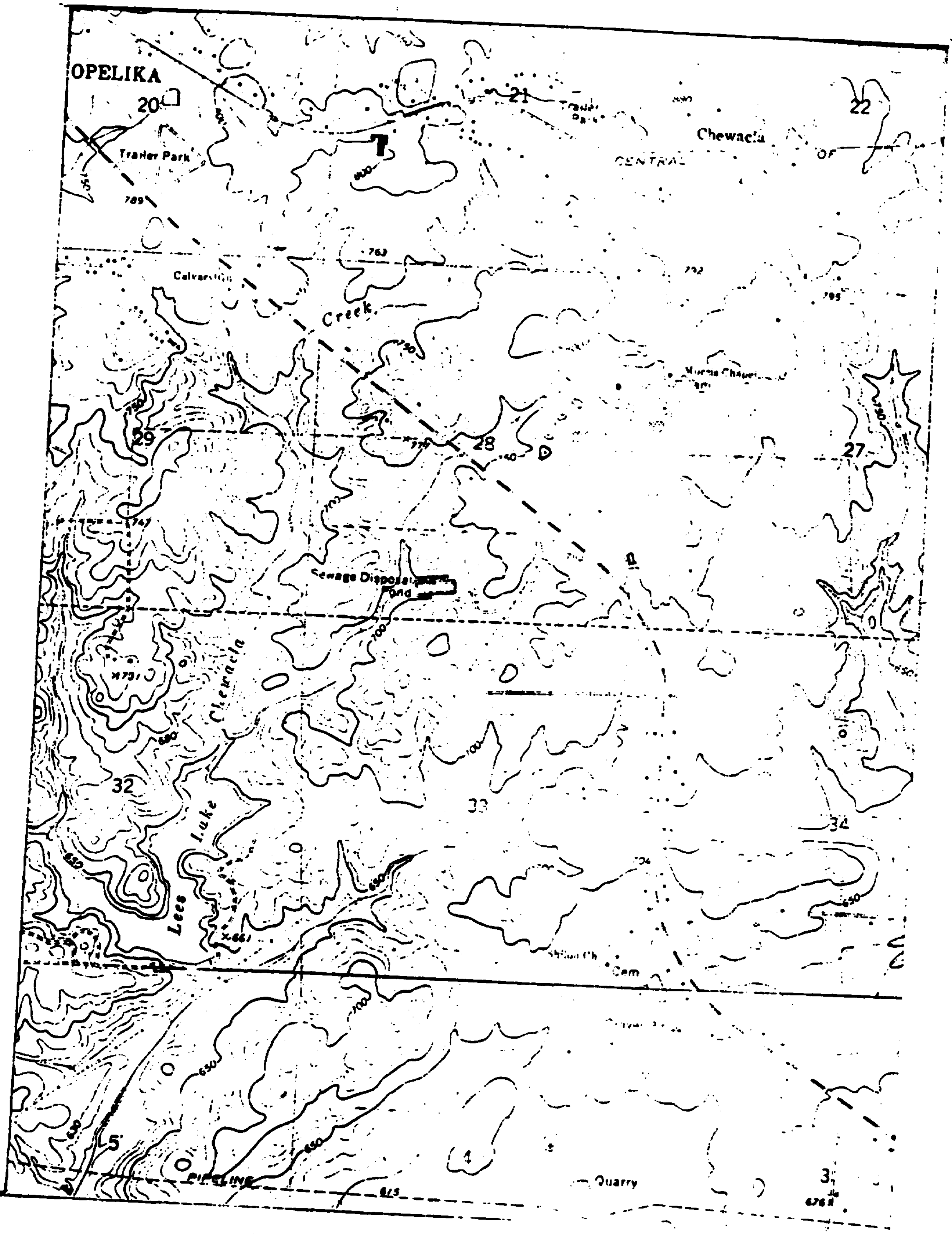
6.0 TOXICOLOGICAL/CHEMICAL CHARACTERISTICS

The toxicology from SAX is presented in Exhibit 6.0 for the six organic compounds determined present in the rainwater. These compounds have been analyzed at part per billion levels. As none of this material was determined present in any of the environmental samples, extensive discussion of this has not been done.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Environmental samples taken at the Uniroyal facility did not indicate the presence of any priority pollutant organics. The only possible exception to this was the sample taken in the old inactive surface impoundment. The base neutral extraction for this water sample exploded during its processing. Therefore, any compounds present could not be determined. This sample was taken in an area where an oil boom was present and a sheen was visible on the water surface. Volatile organics are known to be present on this site, although plant personnel indicate that it is unlikely these materials entered these surface impoundments. It appears that further work is necessary to determine the cause of this sample's volatility and any potential hazards it presents at the site.

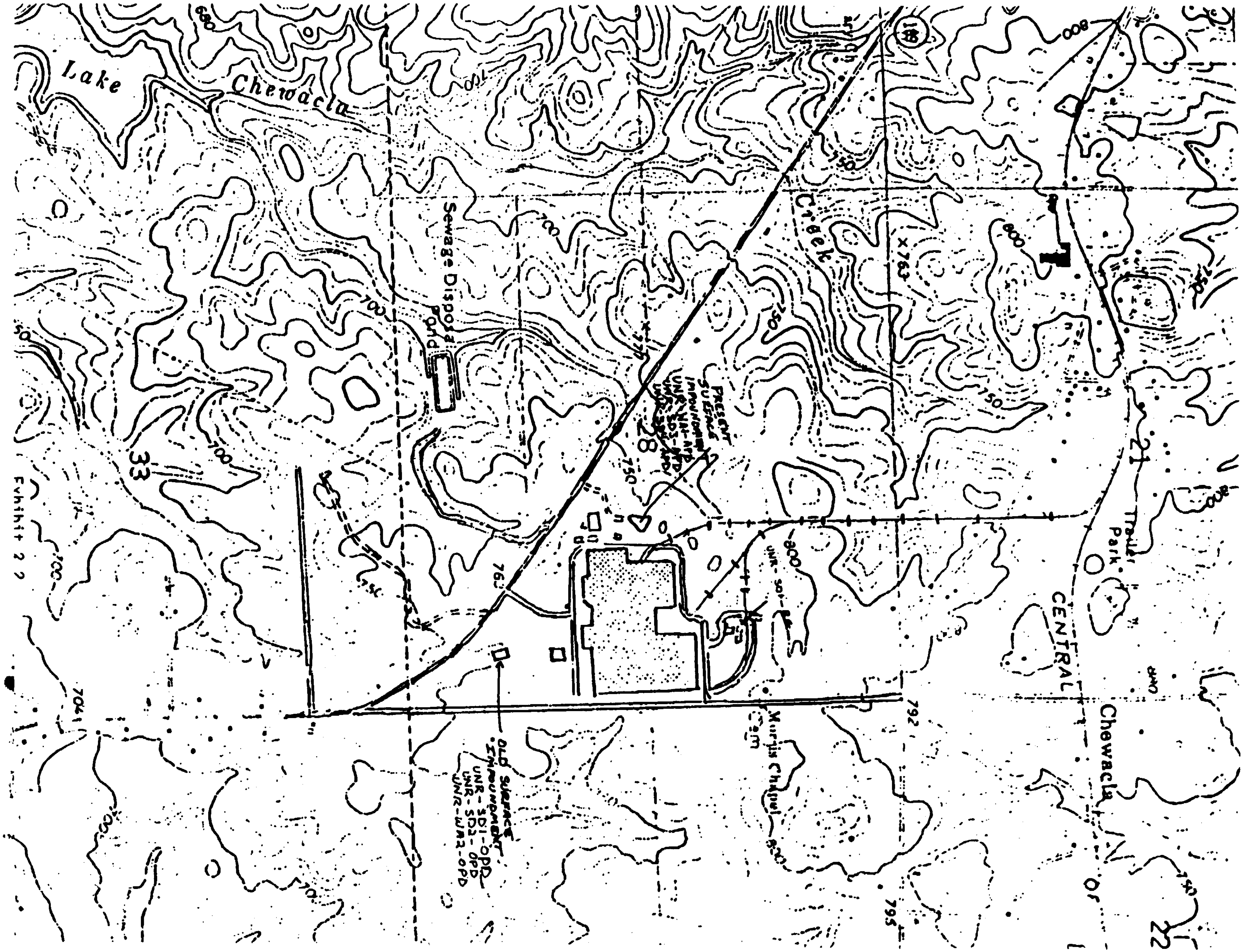
EXHIBITS



U.S.G.S. 7½ MIN. SER

________, AL

Exhibit 2.1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Chewacla
Creek
Sewage Disposal Pond
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OLD SURFACE IMPOUNDMENT
UNR-SD1-OPD
UNR-SD2-OPD
UNR-WA2-OPD
Morris Chapel
Trailer Park
CENTRAL
Chewacla
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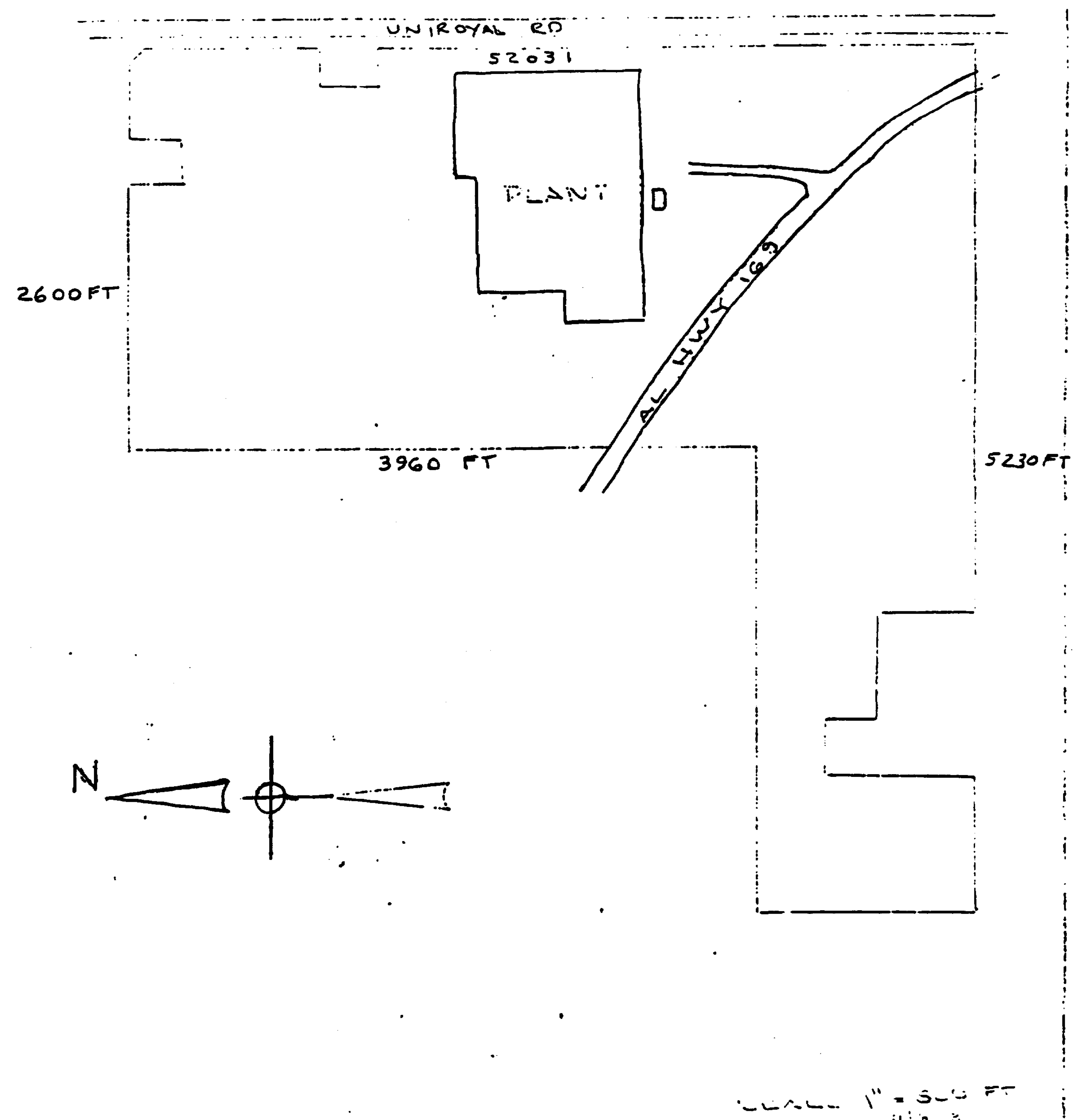
33
21
22
700
750
800
763
792
795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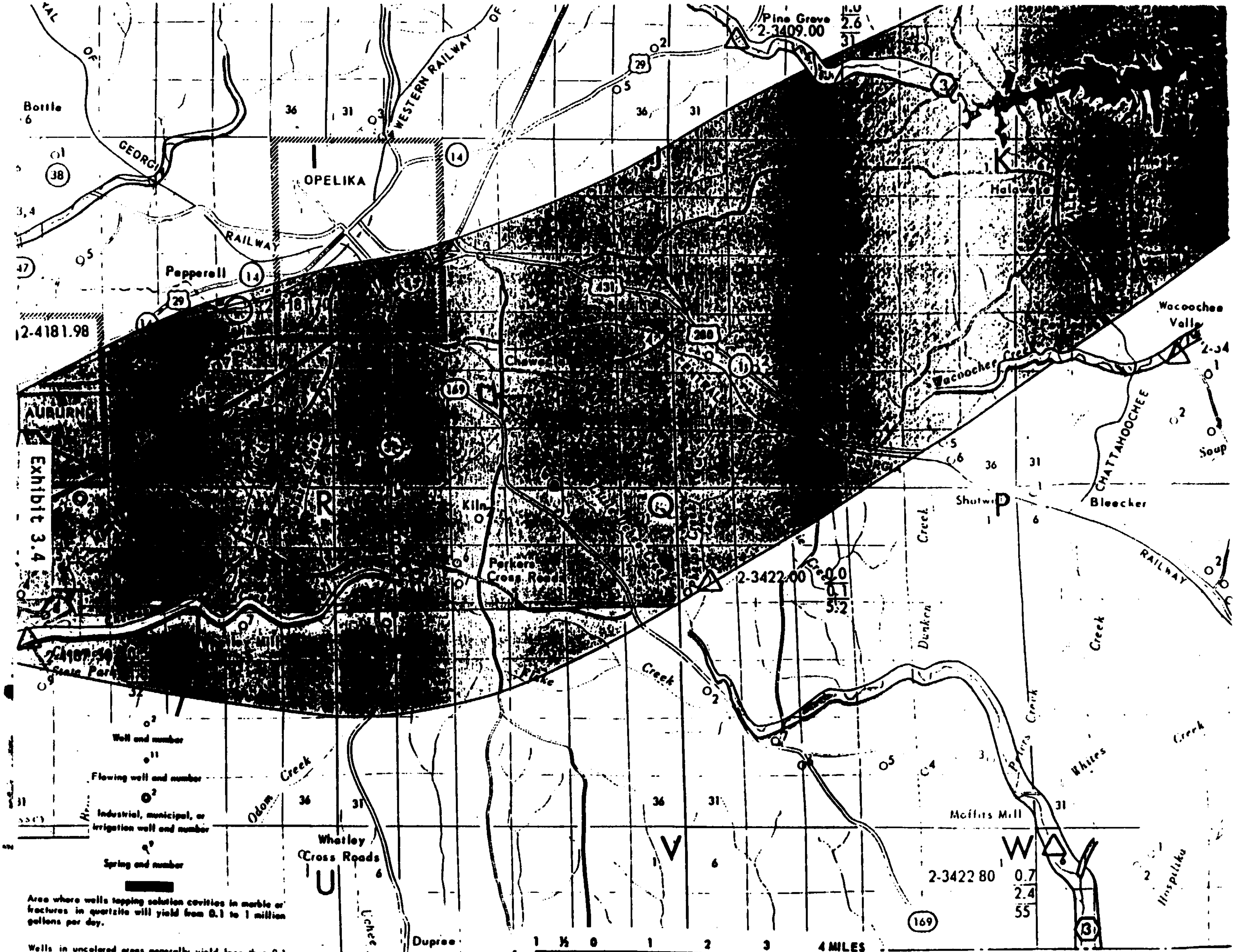
52031
PLANT
D
AL HWY 169
2600FT
3960 FT
5230FT
N
SCALE 1" = 500 FT



Pine Grove
2-3409.00
Bottle
OPELIKA
WESTERN RAILWAY
GEORGIA
RAILWAY
Pepperell
2-4181.98
AUBURN
Halawaka
Wacoochee Valley
CHATTAHOOCHEE
Soap
Bleecker
Kiln
Parkers Cross Roads
2-3422.00
0.0
0.1
5.2
Odom Creek
Whatley Cross Roads
Dupree
Moffits Mill
2-3422 80
0.7
2.4
55
Dunken Creek
Whites Creek
Well and number
Flowing well and number
Industrial, municipal, or irrigation well and number
Spring and number
Area where wells tapping solution cavities in marble or fractures in quartzite will yield from 0.1 to 1 million gallons per day.
Wells in uncolored areas generally yield less than 0.1
1 ½ 0 1 2 3 4 MILES

Exhibit 3.4

Table 4.—*Chemical analyses of water from wells and springs in Lee County*—Continued

Number	Well owner	Date of collection	Water-bearing unit	Well depth (feet)	Milligrams per liter: Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	[1] Sodium (Na)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Noncarbonate	Specific conductance (micromhos at 25° C)	pH	Temperature °C	°F
I-3	Auburn Fisheries Research Unit.	3-28-68	Gn, Sc	200	.....	.25	....	....	....	56	0	......	1.8	....	....	......	19	0	99	6.8	18	64
I-4	....do....	3-28-68	Gn, Sc	410	.....	.05	....	....	....	96	0	......	5.0	....	....	......	81	2	244	8.0	19	66
I-5	A. M. Pearson	2-14-68	Gn, Sc	125	.....	.11	....	....	....	41	0	......	16	....	....	......	56	22	227	6.4	17	63
I-6	A. D. Pugh	3-20-68	Qtz	127	.....	.05	....	....	....	82	0	......	.8	....	....	......	64	0	157	8.2	18	64
I-7	Homer Fletcher	3-20-68	Qtz	200	.....	.23	....	....	....	94	0	......	2.7	....	....	......	68	0	168	7.7	18	64
I-7	....do....	12-17-68	Qtz	200	41	....	24	1.2	8.9	92	0	4.8	2.2	.2	.2	128	65	0	157	7.5	..	..
I-8	J. D. Capps	4-18-68	Qtz(?)	121	.....	.45	....	....	....	37	0	......	4.0	....	....	......	31	1	98	6.6	19	66
[3] I-11	Auburn Athletic Dept	5-25-62	Qtz(?)	234	21	1.1	19.9	1.5	....	4.6	.....	11.9	12.4	....	....	[3] 106	60	....	....	8.4	..	..
J-1	Woodrow Pratt	4- 5-68	Qtz(?)	55	.....	.90	....	....	....	21	0	......	3.6	....	....	......	30	13	90	6.4	17	62
J-2	B. N. Houston	5-17-68	Qtz	65	.....	.02	....	....	....	28	0	......	2.6	....	....	......	19	0	72	7.2	..	..
J-3	Pines Motel	3-29-68	Qtz	123	.....	.05	....	....	....	29	0	......	2.6	....	....	......	18	0	59	7.4	18	65
J-4	Roy E. Plott	3-19-68	Gn	200	.....	.10	....	....	....	16	0	......	.8	....	....	......	9	0	37	6.8	18	65
J-5	Paul Lisle	2-12-68	Gn	75	.....	.44	....	....	....	45	0	......	2.2	....	....	......	31	0	107	7.0	17	62
[4] J-6	City of Opelika	3-11-60	Mb	Spring	.....	.0	26.1	10.8	....	......	.....	.0	6	....	.0	[3] 131	109	....	....	8.0	..	..
J-6	....do....	4- 9-68	Mb	Spring	.....	.04	....	....	....	137	0	......	.2	....	....	......	116	4	218	8.0	17	62
K-2	D. A. Davis	5-17-68	Sc(?)	86	.....	.25	....	....	....	39	0	......	1.8	....	....	......	22	0	71	7.3	..	..
K-3	Salem School	4- 4-68	Sep	36	.....	.41	....	....	....	6	0	......	6.6	....	....	......	25	20	89	5.6	18	64
K-4	Wacoochee School	4- 4-68	Sc(?)	165	.....	.08	....	....	....	36	0	......	.6	....	....	......	29	0	81	6.8	18	64
K-4	....do....	12-17-68	Sc(?)	165	30	.08	2.0	5.8	4.6	40	0	5.4	.....	.2	.0	68	29	0	83	7.2	..	..
K-5	W. L. Hargott	4- 4-68	Myl, Am	72	.....	.42	....	....	....	93	0	......	1.6	....	....	......	75	0	170	7.6	17	63
K-6	....do....	5-16-68	Am	140	.....	.82	....	....	....	57	0	......	3.2	....	....	......	32	0	99	6.8	..	..
L-1	Jack Johnson	4- 9-68	Myl, Am	125	.....	.06	....	....	....	180	0	......	5.6	....	....	......	128	0	303	7.3	18	65
L-1	....do....	12-17-68	Myl, Am	125	44	.02	24	17	20	195	0	5.4	4.6	.4	.0	211	129	0	306	7.8	..	..
L-2	P. E. Hall	5-16-68	Myl(?)	189	.....	.14	....	....	....	169	14	......	4.0	....	....	......	135	0	298	8.5	..	..
L-3	Charles Hill	5-16-68	Myl(?)	150	.....	.77	....	....	....	190	0	......	19	....	....	......	168	12	397	7.7	18	65
L-4	L. R. Musser	4-10-68	Gn	187	.....	.05	....	....	....	167	0	......	9.0	....	....	......	110	0	302	7.7	..	..
N-1	S. E. Musser	2- 7-68	Mig, Gn	333	.....	.29	....	....	....	81	0	......	1.2	....	....	......	54	0	155	7.2	18	65
O-1	W. A. Ashcraft	5-17-68	Am(?)	106	.....	.05	....	....	....	32	0	......	3.8	....	....	......	19	0	59	7.2	..	..
O-2	Trackside Oil Co	2- 8-68	Gn	180	.....	.57	....	....	....	5	0	......	1.0	....	....	......	8	4	30	6.0	17	63
O-2	....do....	12-17-68	Gn	180	8.9	.29	1.0	2.1	3.9	11	0	.6	2.4	.1	8.0	32	11	2	36	6.8	..	..
O-3	B. R. Flowers	2- 8-68	Gn(?), Mig(?)	147	.....	.29	....	....	....	17	0	......	1.4	....	....	......	14	0	37	6.1	17	62
O-4	Charles Reeder	2- 8-68	Mig, Gn	261	.....	.22	....	....	....	49	0	......	.6	....	....	......	32	0	104	7.0	17	63
O-5	C. D. Sparks	2- 8-68	Mig, Gn	150	.....	.19	....	....	....	110	0	......	12	....	....	......	92	2	258	7.7	..	..
O-6	Calvin Green	2- 8-68	Mig	105	.....	.27	....	....	....	64	0	......	.8	....	....	......	39	0	133	7.2	17	63
P-1	Roy Lowe	4- 9-68	Gn, Myl	113	.....	.06	....	....	....	30	0	......	13	....	....	......	51	26	154	6.6	19	66
P-2	South Georgia Gas Co	2- 9-68	Gn, Myl	420	.....	.11	....	....	....	39	0	......	2.2	....	....	......	30	0	87	7.0	17	63
P-3	J. D. Stillwell	2- 9-68	Mig, Gn	265	.....	.08	....	....	....	26	0	......	.8	....	....	......	16	0	62	7.3	17	62
P-4	Mrs. Hodge P. Allen	2- 9-68	Gn, Mig	175	.....	.16	....	....	....	69	0	......	11	....	....	......	80	23	270	7.6	17	63

ALABAMA STATE BOARD OF HEALTH

REPORT OF DATA

PUBLIC WATER SUPPLY

City Opelika Sheet No. ...... of ......

Date Feb. 19, 1942 Investigator ......

GENERAL DATA

City Opelika County Lee

Last Official Census 8847 (1940) Present Est. Population ......

Mayor John S. Crossley (Pres. City Com.) City Clerk T.C. Tollison

Owner of Waterworks City Date Installed ......

Manager ~~R. C. Butler~~ J. R. Bennett ~~Herbert Huling~~ Plant Operator ~~R. C. Butler~~

Location of Plant (relative to city) near center of city

Source (Surface, Well, Springs, etc.) Spring Villa about 7 miles southeast of City

Gallons pumped per day ~~1,000,000~~ 1,500,000 Plant Capacity New Plant. 3.0 M.G.D.

TREATMENT:—

Settled ...... Coagulated ......

Mineral Removal ...... Softened ......

Filtered ...... Disinfected ✓

PRESSURE:—

Direct ...... Standpipe ✓

Elev. Tank ...... Press. Reservoir ......

Power Used:—Steam ...... Elec. ✓ Int. Comb. Engine ......

Power Furnished by: Ala. Power Co. to City

Number Services 1400 Percent Metered 100% Rates First 10,000 - 40¢ (1.00 min.)
Next 10,000 - 30¢
" 10,000 - 25¢
" 20,000 - 20¢
" 25,000 - 15¢
" 25,000 - 12½¢
" 400,000 - 11¢

Number People Served 7,000 Percent of Pop. Served ......

Other sources of Supply: (State if any other supply is available through cross connection and if so, give description of treatment accorded to water and nature of connection.) No other source reported

REMARKS: (Include Adequacy of the Supply) Supplies water to Pepperal Mills and their village. At times the supply is low.

City .... Sheet No. .... of ....

SPRING SUPPLY

Number of Springs ... Names Spring Villa

Surface Drainage Area Above Springs about 5 miles. .... Acres

Percent Drainage Area Controlled by Waterworks 1/4 Acre fenced.

Population on Area Sparcely Settled Number of Houses ....

Sanitation of Houses (Privies, Septic Tanks, Etc.) ....

Nature of Shed:

Cultivated ......%   Timber ......%

Meadow ......%   Swamp ......%

Fenced ......%   Patrolled ......%

Describe Spring Protection Concrete basin down to rock and extending 18" above ground. Basin 90' x 55' x 8' deep.

Sanitary Conditions Around Spring: Drainage ditches on both sides of spring about 30' from collecting basin. Ground slopes to ditches.

Flow from each Spring ....

Combined Flow ....

Describe Collecting System ....

Describe Overflow 2-12" cast iron pipes located about 2½' above bottom with flap valves.

Distance to Nearest Stream .... Relative Elevs. ....

Can flood water get into spring? Normally water does not enter, however flood water has covered the entire basin.

Pump or gravity flow to town? Pump.

REMARKS (Undesirable features, sources of pollution, etc.)

Pumps. #1. American Well Works, 1,000 g.p.m. two stage 6" Centrifugal directly connected to 150 H.P., 1750 r.p.m. Westinghouse motor.

#2 American Well Works 1,000 g.p.m. three stage 6" centrifugal 1200 r.p.m. directly connected to 225 H.P., 6 cylinder Sterling gas engine.

No. 2—10/34.

City .... Sheet No. ...... of ......

~~PRESSURE~~ RESERVOIR

(Standpipe ~~or Elevated Tank~~)

Installed .... Covered No.

Material Steel Capacity 112,000 gal

Heighth: Tower None Tank 95'

Length .... Width .... Diameter 18'

Size Inlet 10" Size Outlet Same.

When Cleaned .... Deposit ....

Average Pressure in Town 50 #A"

Two Surface Storage ~~CLEAR WATER~~ RESERVOIRS in City

Material Concrete. Date Built ....

Sanitary Features ....

Roof Concrete. Ventilation Two Concrete screened vents for each

Length #2 60' #1 - 50' Width #2 40'

Diameter .... Depth #1 - 11' #2 - 11'

Capacity #1-233,000 gal. #2-200,000 gal Total 433,000 gal. Drain (No., size, location) Each has 12" C.I. drain

Discharge from drain into ....

When Cleaned .... Deposit ....

REMARKS: Water from the spring enters one reservoir and flows through a connecting pipe to other in normal operating procedure. However, either one may be used separately.

No. 5—10-34.

City ....

Sheet No.......... of ....

TREATMENT PLANT

Chemical Solution Tanks

	Alum	Soda Ash	Lime	Iron	Hypo.
Number of Tanks					
Length and Width or Diameter					
Depth					
Capacity (Gal.)					
Lbs. Chemicals per Charge					
Percent Solution					
Materials of Construction					
No. Orifice Boxes					
Type Orifice Boxes					

Dry Feed Machines

Number.............. Type.. Location ....

....

Chlorinator

Number 1 W.+T. Location ~~Pump~~ House next to Surface Reservoir When Installed 1939.

Protection Elect. heater.

~~Chlorine~~

General

Pipe material and sizes to points of application ....

....

Gravity or force feed ....

Chemical Dosages

	Raw	Settled	Filtered	Finished
Chemical				
Alum or Iron P. P. M.				
Lime or Soda P. P. M.				
Sodium Aluminate P. P. M.				
Chlorine or ~~Hypo~~ P. P. M.				✓

Remarks Chlorine applied to water in spring pump discharge line as it enters the surface storage reservoirs.

City .... S... et No. .... of

MOTOR DRIVEN PUMPS

RAW WATER:

Pump Manufacturer .... Date Installed ....

Type and Size .... Rated Capacity .... g.p.m.

R. P. M. or Strokes .... How Connected ....

Motor Manufacturer and Type .... H. P. ....

Current: .... Phase .... Cycle .... Volts .... r.p.m.

Pump Manufacturer .... Date Installed ....

Type and Size .... Rated Capacity .... g.p.m.

R. P. M. or Strokes .... How Connected ....

Motor Manufacturer and Type .... H. P. ....

Current: .... Phase .... Cycle .... Volts .... r.p.m.

HIGH PRESSURE:

Pump Manufacturer Worthington .... Date Installed ....

Type and Size 2 stage 6" Centrifugal .... Rated Capacity 750 .... g.p.m.

R. P. M. or Strokes 1760 .... How Connected direct

Motor Manufacturer and Type Westinghouse .... H. P. 75

Current: 3 Phase 60 Cycle 2200 Volts 1760 r.p.m.

Pump Manufacturer Worthington .... Date Installed ....

Type and Size 2 stage 6" centrifugal .... Rated Capacity 1000 .... g.p.m.

R. P. M. ~~or Strokes~~ 1745 .... How Connected Direct.

Motor Manufacturer and Type G. E. .... H. P. 150

Current: 3 Phase 60 Cycle 2200 Volts 1745 r.p.m.

High Pressure.
~~WASH WATER:~~

Pump Manufaceurer American Well Works .... Date Installed ....

Type and Size 3 stage 6" Centrifugal .... Rated Capacity 1000 .... g.p.m.

R. P. M. ~~or Strokes~~ 1200 .... How Connected Direct.

Engine ~~Motor~~ Manufacturer and Type 6 cylinder Marine Engine .... H. P. 225

Current: .... Phase .... Cycle .... Volts .... r.p.m.

REMARKS: Gasoline Engine + pump used as stand-by.

No. 10—1/27

INSPECTIONS

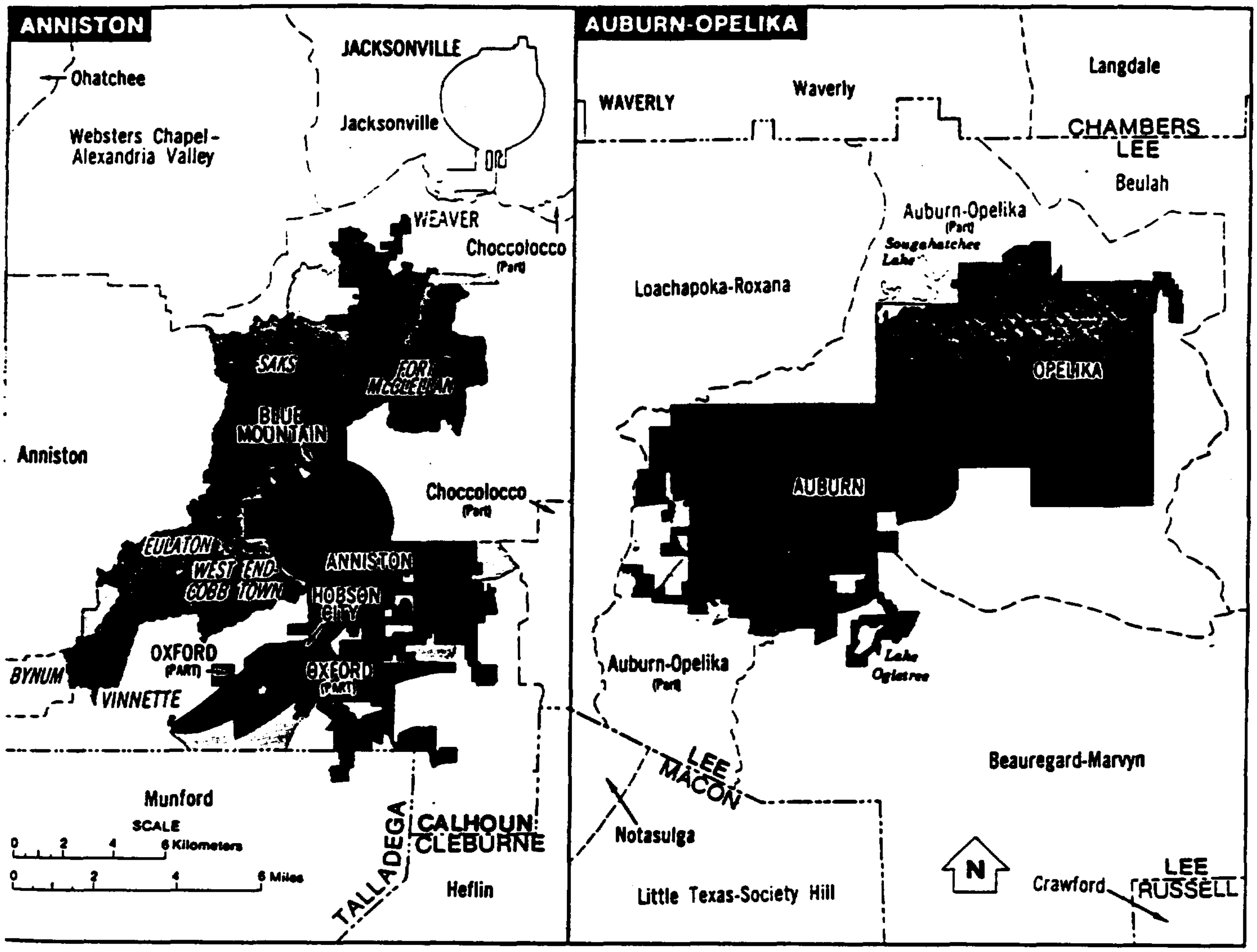
City..

State all unsatisfactory conditions that exist and recommendations made for correction; also, record changes made since last inspection.

Date:

5/25/42. Spring basin fairly free of algae. Watchman on duty. New Supt. instructed in making orthotolidine tests.

1/5/43 [illegible]



MAP LEGEND

TYPE STYLES	GEOGRAPHIC AREAS
MEXICO	Foreign country
IOWA	State
DANE	Subject SMSA county
POWER	County not part of subject SMSA
Locust	County subdivision
SILAS	Incorporated place
PERDIDO	Census designated place
Pyramit	American Indian reservation
Lake Wingra	Major water feature

Note: All political boundaries are as of January 1, 1980. Boundaries of small areas may not be depicted exactly due to scale of map. Where boundaries coincide, boundary symbol of higher level geographic area is shown.

Open six-spoked asterisk following place name indicates the place is coextensive with a county subdivision. The county subdivision name is shown only when it differs from that of the place.

Solid eight-spoked asterisk following an incorporated place name indicates the place is treated as a county subdivision for census purposes.

COMPONENTS OF URBANIZED LAND AREA

- Incorporated place
- Census designated place
- Other area

U.S. Department of Commerce — BUREAU OF THE CENSUS

Exhibit 3.7.

S E L E C T I O N   E X T R A C T   F I L E

PWS-ID 0000615

SYSTEM NAME............OPELIKA WATER WORKS BOAR
PLANT TYPE.............COMMUNITY
ACTIVITY CODE..........ACTIVE
REGULATE BY............REGULATED BY STATE
CONSECUTIVE INDICATOR..NOT CONSECUTIVE
DEACTIVATION REASON....
REPORT REQUIRED........NO
INTERSTATE CARRIER.....NO

POPULATION SERVED........................23,460
PLANT BEGIN DATE.........................05/77
COMPLIANCE CYCLE.........................17
NUMBER OF CONSECUTIVE PWS................1
DEACTIVATION DATE........................00/00/00
LAST REPORT DATE.........................00/00
LAST UPDATE DATE.........................11/19/84

SOURCE DATA

SOURCE ID
--------- NAME: SAUGAHATCHEE LK
01 CODE: SURFACE WATER

NUMBER OF WELLS.....
WELL BEGIN DATE..00/00
SELLER ID......

AVAILABILITY: PERMANENT SOURCE
RIVER BASIN :
LATITUDE 032.39.54 LONGITUDE 085.25.03

TREATMENTS: AERATION.........0 SEDIMENTATION......1 SOFTENING.....0 AMMONIATION..........0 UNTREATED..
PRECHLORINATION..1 FILTRATION.........1 TASTE/ODOR....1 FLUORIDE ADJUSTMENT..1 OTHER......
COAGULATION......1 CORROSION CONTROL..1 IRON REMOVAL..0 DISINFECTION.........1

SOURCE ID
--------- NAME: SPRING 1100GPM
02 CODE: GROUND WATER

NUMBER OF WELLS.....
WELL BEGIN DATE..00/00
SELLER ID......

AVAILABILITY: PERMANENT SOURCE
RIVER BASIN :
LATITUDE . . LONGITUDE . .

TREATMENTS: AERATION.........0 SEDIMENTATION......1 SOFTENING.....0 AMMONIATION..........0 UNTREATED..
PRECHLORINATION..1 FILTRATION.........1 TASTE/ODOR....1 FLUORIDE ADJUSTMENT..1 OTHER......
COAGULATION......1 CORROSION CONTROL..1 IRON REMOVAL..0 DISINFECTION.........1

SOURCE ID
--------- NAME: AUBURN
03 CODE: PURCHASED WATER-SURFACE SOURCE

NUMBER OF WELLS.....
WELL BEGIN DATE..00/00
SELLER ID......

AVAILABILITY: EMERGENCY SOURCE
RIVER BASIN :
LATITUDE . . LONGITUDE . .

TREATMENTS: AERATION.........0 SEDIMENTATION......0 SOFTENING.....0 AMMONIATION..........0 UNTREATED..
PRECHLORINATION..0 FILTRATION.........0 TASTE/ODOR....0 FLUORIDE ADJUSTMENT..0 OTHER......
COAGULATION......0 CORROSION CONTROL..0 IRON REMOVAL..0 DISINFECTION.........0

PRIMARY SOURCE.........SURFACE WATER

NUMBER OF SOURCES..............................3

ADDRESS DATA

OWNER NAME: OPELIKA WATER WORKS BOARD
OWNER NAME LINE2: J PALMER DUNCAN, CHAIRMAN
OWNER ADDRESS: P O BOX 1029
OPELIKA AL 36801

OWNER TYPE: MUNICIPALITY

MAILING NAME: OPELIKA WATER WORKS BOARD
MAILING NAME LINE2: ATTN W FLORENCE, SUPT.
MAILING ADDRESS: P O BOX 1029
OPELIKA AL 36801

PLANT AREA CITY NAME	MANUAL FILE REF	PHONE NUMBER	POSTAL CODE
CHMAN 7434651	027D1R 27D1R	205-745-6275	AL

COUNTY: LEE
REGION: SOUTHEAST REGION
DISTRICT:

UNIROYAL

Division of Uniroyal, Inc.
P.O. Box 30
Opelika, Alabama 36801

September 17, 1984

Mr. Ashley Chadwick
Alabama Department of Environmental Management
1751 Federal Drive
Montgomery, Alabama 36130

Dear Mr. Chadwick:

Enclosed are copies of the test results from the ten (10) drums of unknown materials. As you see, several have hazardous characteristics. We are proceeding to submit samples to Chemical Waste Management for disposal.

Subsequent to this series of unknown materials, we have discovered some-more, including the two spills you requested analysis on, which we are processing.

Thank you for helping us with our program.

Very truly yours,

P. D. Peterson

P. D. Peterson, P.E.
Sr. Facilities Engineer

/eh

Enc.

RECEIVED
SEP 1984
ADEM
Land Division
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Exhibit 4.1

HARMON ENGINEERING & TESTING

AUBURN INDUSTRIAL PARK, AUBURN, AL 36830-4399 (205) 821-9250

LABORATORY RESULTS

Uniroyal
Post Office Box 30
Opelika, AL 36803-0030

Attention: Mr. Palmar Petersen

HE&T PROJECT 623-04

DATE SAMPLE RECEIVED 8-7-84

DATE DATA TRANSMITTED 9-5-84

CLIENT JOB REFERENCE ______

HE&T Sample Number	Client Sample Identification	As mg/L	Ba mg/L	Cd mg/L	Cr mg/L	Pb mg/L	Hg mg/L	Se mg/L	Ag mg/L
10834	1	<0.1	<1	0.21	<0.1	<0.02	<0.1	0.01	<0.1
10835	2	0.1	<1	<0.01	0.1	<0.005	0.5	0.02	0.1
10836	3	<0.1	<1	<0.01	<0.1	<0.02	<0.1	0.04	0.1
10837	4	<0.1	<1	0.01	0.5	<0.03	11.8	0.03	<0.1
10838	5	<0.1	<1	<0.01	<0.1	<0.005	<0.1	0.03	<0.1
10839	6	<0.1	<1	<0.01	0.5	<0.01	<0.1	0.06	<0.1
10840	7	<0.1	<1	<0.01	<0.1	<0.005	<0.1	0.03	<0.1
10841	8	<0.1	<1	0.01	0.1	<0.01	1.1	0.06	0.4
10842	9	0.1	<1	<0.01	1.6	<0.005	<0.1	0.03	<0.1
10843	10	<0.1	<1	<0.01	<0.1	<0.005	0.1	<0.01	<0.1
ALLOWABLE CONCENTRATION		5.0	100	1.0	5.0	5.0	0.2	1.0	5.0

Approved for Transmittal

Terrence A White

Laboratory Manager

HARMON ENGINEERING & TESTING

AUBURN INDUSTRIAL PARK, AUBURN, AL 36830-4399 (205) 821-9250

LABORATORY RESULTS

Uniroyal
Post Office Box 30
Opelika, AL 36803-0030

Attention: Mr. Palmer Petersen

HE&T PROJECT 623-04

DATE SAMPLE RECEIVED 8-7-84

DATE DATA TRANSMITTED 9-5-84

CLIENT JOB REFERENCE ______

HE&T Sample Number	Client Sample Identification	FLASH POINT	CORROSIVITY pH S.U.	REACTIVITY CHEMICAL	REACTIVITY PHYSICAL	REACTIVITY THERMAL
10834	1	>100°C	5.5	-	-	-
10835	2	>100°C	11.6	-	-	-
10836	3	>100°C	4.6	-	-	-
10837	4	>100°C	1.2	-	-	-
10838	5	49°C	2.1	-	-	-
10839	6	52.5°C	2.2	-	-	-
10840	7	12.5°C	9.1	-	-	-
10841	8	42°C	10.4	-	-	-
10842	9	76°C	6.1	-	-	-
10843	10	>100°C	10.8	-	-	-

60°C = 140°F

Approved for Transmittal

Laboratory Manager

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Uniroyal, Inc.

LAND PROGRAM

1982 Hazardous Waste Generator and On-Site TSD Facility Annual Report

NOTE: Read all instructions prior to completing this form.

I. Installation EPA ID Number: AL D 0 4 1 5 1 1 3 0 1

II. Name of Installation: Uniroyal, Inc.

III. Location of Installation: Highway 169 & Uniroyal Road
(Street or Route Number)

Opelika	Lee	Alabama	36801
(City or Town)	(County)	(State)	(Zip Code)

IV. Installation Contact: Palmer D. Peterson (Name) — 205-745-6411, Ext. 406 or 231 (Area Code) (Telephone Number)

V. Waste Identification:

Line Number	A. EPA Waste Number	B. Description of Waste	C. Quantity Generated (LBS)	D. Amount of Waste by Handling Method: 1. Handling Method Code	2. Quantity Stored, Treated Disposed, or Recovered On-Site	Shipped to Off-Site Treatment Disposal, or Recovery Facility: 3. Quantity	4. Facility EPA ID No./Recovery Facility Name
1.	D003	Waste Rubber Cement	810	501	0	801	Hazardous Waste Man.
2.							
3.							
4.							
5.							

(If more space is needed, check ☐ and complete Attachment I)

VI. Closure Cost Estimate for Facilities $ (Not a TDS Facility)

VII. Cost Estimate for Post-Closure Monitoring and Maintenance (Disposal Facility Only) $ -

VIII. Certification:

(Signature)	J. M. Lane (Print or Type Name)	Plant Manager (Title)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including ...

LAND PROGRAM

19____ Hazardous Waste Generators Annual Report

I. Facility ID # | A | L | D | 0 | 4 | 1 | 5 | 1 | 1 | 3 | 6 | 1 |

II. Facility Name UNIROYAL TIRE COMPANY

III. Location of Facility P. O. BOX 30

(Street or Route Number)

OPELIKA	LEE	ALABAMA	36801
City	County	State	Zip Code

MAR 1984 RECEIVED ADEM Land Division

Installation Contact P. D. PETERSON 205 - 745-6411 EXT. 215

Name Area Code Telephone Number

V. During 19 83 the facility did [X] did not [ ] generate reportable amounts of hazardous waste. (If you check did not, skip to item VII.)

VI. Waste Identification:

	A. EPA Waste Number	B. Waste Description	C. Amount of Waste (lbs)	D. Receiving Facility	E. Receiving Facility ID Number	F. Transporter Name	G. Transporter ID Number
1.	D001	RUBBER CEMENT	24,640	W. MANAGEMENT	ALD000622464	H. DANIEL	ALD050978055
2.							
3.	-	WASTE OIL	108,240	W. MANAGEMENT	ALD000622464		
4.							
5.							
6.							

VII. Certification:

Signature P. D. Peterson P. D. PETERSON

(Print or Type)

Title ENVIRONMENTAL ENGINEER

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P O Box 20382
106 Upton Dr
Jackson Ms 39209
601 922 8242

7215 Pine Forest Rd
Pensacola Fl 32506
904 944 0301

ANALYTICAL REPORT

Date: March 25, 1985

Site: Uniroyal, Inc.
Opelika, Alabama

Matrix: Soil, Sediment and Water

Client: Alabama Department of Environmental Management

Date Received: January 11, 1985

EPS Lab No.	EPS Field Identification
85010198	UNR-S01-BG
85010199	UNR-WA1-APD
85010200	UNR-SD3-APD
85010201	UNR-SD4-APD
85010202	UNR-SD1-OPD
85010203	UNR-SD2-OPD
85010204	UNR-WA2-OPD

Attached sheets list results of our analysis of above samples for: Ignitability, Mercury, Base/Neutral Extractables, Acid Extractables and Benzothiazole

Analytical Reference No.: 85.1.460

Associate Director of Analytical Services

Exhibit 5.1

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

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ANALYTICAL REPORT

Date: March 25, 1985

Site: Uniroyal, Inc.
Opelika, Alabama

Matrix: Soil, Sediment and Water

Client: Alabama Department of Environmental Management

Date Received: January 11, 1985

Spiking and Recovery Data

EPS Lab No. 85010205

Parameter	Spiking Level (ppm)	Percent (%) Recovery
Mercury	0.002	104.9
Hexachlorobenzene	10.0	99.0
Pentachlorophenol	25.0	88.0

Associate Director of Analytical Services

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P.O. Box 20382 • 160 Upton Drive • Jackson, MS 39209
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Telephone: (904) 944-0301

LABORATORY REPORT

85.1.460 | 1/2

CLIENT:	Alabama Dept. of Environmental Mgmt.	COLLECTED BY:	EPS (174)
LOCATION:	Montgomery, AL	DATE COLLECTED:	01/09/85
DATE	03/27/85	DATE RECEIVED:	01/11/85
INVOICE NO.:	To be invoiced/pm	DATE ANALYZED:	03/25/85

LABORATORY SAMPLE IDENTIFICATION

85010198 - UNR-S01-BG
85010199 - UNR-WA1-APD
85010200 - UNR-SD3-APD
85010201 - UNR-SD4-APD

ANALYSES	IDENTIFICATION NUMBER 0198	0199	0200	0201
Mercury, Total, mg/kg	<0.001		<0.001	<0.001
Ignitability, °F			>140	>140
"EP TOXICITY" Extraction	Yes		Yes	Yes
Benzothiazole, ppm	<0.01	<0.01	<0.01	<0.01
All others in Base/Neutrals Extractables, Screen 110, ppm	<0.01	<0.01	<0.01	<0.01
Acid Extractables, Screen 111, ppm	<0.01	<0.01	<0.01	<0.01

COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, May, 1980, Test Methods for Evaluating Solid Waste. All samples collected under RCRA 3102 Program at Uniroyal, Inc., Opelika, Alabama.

CERTIFICATION

Herbert A. Johnston
MANAGER, CHEMICAL LABORATORY

DIRECTOR, ANALYTICAL SERVICES

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

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LABORATORY REPORT

~~85.1.460~~ 2/2

CLIENT	Alabama Dept. of Environmental Mgmt.	COLLECTED BY	EPS (174)
LOCATION	Montgomery, AL	DATE COLLECTED	01/09/85
DATE	03/27/85	DATE RECEIVED	01/11/85
INVOICE NO.	To be invoiced/pm	DATE ANALYZED	03/25/85

LABORATORY SAMPLE IDENTIFICATION

85010202 - UNR-SD1-OPD
85010203 - UNR-SD2-OPD
85010204 - UNR-WA2-OPD

ANALYSES	IDENTIFICATION NUMBER 0202	0203	0204	
Mercury, Total, mg/kg	<0.001			
Ignitability, °F	>140			
"EP TOXICITY" Extraction	Yes			
Benzothiazole, pp.	<0.01	<0.01		
All others in Base/Neutrals Extractables, Screen 110, ppm	<0.01	<0.01	*	
Acid Extractables, Screen 111, ppm	<0.01	<0.01	<0.01	

COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, May, 1980, Test Methods for Evaluating Solid Waste. All samples collected under RCRA 3102 Program at Uniroyal, Inc., Opelika, Alabama. *Sample exploded during laboratory preparation.

CERTIFICATION

Herbert A. Johnston
MANAGER, CHEMICAL LABORATORY

DIRECTOR, ANALYTICAL SERVICES

BENZOQUINON-2,5-YLENEBIS(IMINOTRIMETHYLENE))BIS(BENZYLDIETHYLAMMONIUM DICHLORIDE)

CAS RN: 311091 NIOSH #: BO 4900000
mf: $C_{34}H_{50}N_4O_2\cdot 2Cl$; mw: 617.78

SYNS:
BENZOQUINONE, 2,5-BIS(3-DIETHYLAMINOPROPYLAMINO)-, BIS-BENZYLCHLORIDE
BENZOQUINONIUM CHLORIDE
2,5-BIS(3-DIETHYLAMINOPROPYLAMINO)BENZOQUINONEBIS(BENZYL CHLORIDE)

TOXICITY DATA: 3-2	CODEN:
orl-rat LDLo:450 mg/kg	JPETAB 100,333,50
scu-rat LDLo:2600 ug/kg	JPETAB 100,333,50
orl-mus LD50:140 mg/kg	JPETAB 100,333,50
scu-mus LD50:2500 ug/kg	JPETAB 100,333,50
ivn-mus LD50:600 ug/kg	JPETAB 100,333,50
orl-dog LDLo:5500 ug/kg	JPETAB 100,333,50
ivn-dog LDLo:100 ug/kg	JPETAB 100,333,50
ims-dog LDLo:150 ug/kg	JPETAB 100,333,50
orl-cat LDLo:11 mg/kg	JPETAB 100,333,50
ivn-rbt LD50:42 ug/kg	JPETAB 100,333,50

THR: HIGH scu, orl, ivn, ims. MOD orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and Cl^-.

BENZO-1,2,3-THIADIAZOLE-1,1-DIOXIDE

mf: $C_6H_4N_2O_2S$; mw: 164.22

Explosion Hazard: The solid explodes at 60°, on impact or friction and sometimes spont.

BENZOTHIAZIDE

CAS RN: 91338 NIOSH #: DK 8400000
mf: $C_{15}H_{14}ClN_3O_4S_3$; mw: 431.95

SYNS:
AQUATAG
3-((BENZYLTHIO)METHYL)-6-CHLORO-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-2H-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-7-SULFAMOYL-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-7-SULFAMYL-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-7-SULFAMYL-2H-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE

TOXICITY DATA: 3	CODEN:
ivn-rat LD50:422 mg/kg	JPETAB 128,122,60
ivn-mus LD50:410 mg/kg	12VXA5 8,137,68
ivn-dog LDLo:200 mg/kg	JPETAB 128,122,60

THR: HIGH ivn.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x, NO_x and Cl^-.

BENZOTHIAZOLE ★

CAS RN: 95169 NIOSH #: DL 0875000
mf: C_7H_5NS; mw: 135.19

Liquid, odor of quinoline, slightly water sol. d: 1.246 @ 20°/4°, bp: 228° @ 765 mm.

SYNS:
BENZOSULFONAZOLE
1-THIA-3-AZAINDENE
USAF EK-4812

TOXICITY DATA: 3	CODEN:
orl-mus LD50:900 mg/kg	DCTODJ 3,249,80
ipr-mus LD50:100 mg/kg	NTIS** AD277-689
ivn-mus LD50:95 mg/kg	JPETAB 105,486,52

Reported in EPA TSCA Inventory, 1980.
THR: HIGH ipr, ivn. MOD orl.
Disaster Hazard: Dangerous; see sulfides, cyanides, NO_x.

BENZOTHIAZOLE DISULFIDE

CAS RN: 120785 NIOSH #: DL 4550000
mf: $C_{14}H_8N_2S_4$; mw: 332.48

Cream to light yellow powder; mp: 175°, d: 1.5.

SYNS:
2-BENZOTHIAZOLYL DISULFIDE
BIS(BENZOTHIAZOLYL) DISULFIDE
BIS(2-BENZOTHIAZYL) DISULFIDE
DI-2-BENZOTHIAZOLYL DISULFIDE
2,2'-DIBENZOTHIAZYL DISULFIDE
DIBENZOYLTHIAZYL DISULFIDE
DIBENZTHIAZYL DISULFIDE
2,2'-DITHIOBIS(BENZOTHIAZOLE)
2-MERCAPTOBENZOTHIAZOLE DISULFIDE
2-MERCAPTOBENZOTHIAZYL DISULFIDE

TOXICITY DATA: 3	CODEN:
orl-mus TDLo:172 gm/kg/78W-I:ETA	NTIS** PB223-159
orl-rat LD50:7 gm/kg	RCTEA4 44(2),513,71
orl-mus LD50:12 gm/kg	TXAPA9 42,417,77
ipr-mus LDLo:100 mg/kg	NTIS** AD277-689
ivn-mus LD50:180 mg/kg	CSLNX* NX#02251

Reported in EPA TSCA Inventory, 1980.
THR: An exp ETA. HIGH ivn; LOW orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

2-BENZOTHIAZOLETHIOL

CAS RN: 149304 NIOSH #: DL 6475000
mf: $C_7H_5NS_2$; mw: 167.25

Light yellow powder. mp: 170°, d: 1.42 @ 25°.

SYNS:
2-MERCAPTOBENZOTHIAZOLE
NCI-C56519
USAF GY-3
USAF XR-29

TOXICITY DATA: 3	CODEN:
orl-mus TDLo:35 gm/kg/78W-I:ETA	NTIS** PB223-159
scu-mus TDLo:215 mg/kg:CARC	NTIS** PB223-159
orl-rat LD50:100 mg/kg	JPETAB 90,260,47
orl-mus LD50:1851 mg/kg	VCTDC*
ipr-mus LD50:150 mg/kg	NTIS** AD277-689

Toxicology Review: JOCMA7 15(10),808,73; 27ZTAP 3,90,69. Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: An exper CARC, ETA. HIGH orl, ipr; MOD orl.
Disaster Hazard: Dangerous; when heated to decomp,

or on contact with acid or acid fumes, emits highly tox SO_x and NO_x.
Incomp: Oxidizing materials.

2-BENZOTHIAZOLYL-N,N-DIETHYLTHIOCARBAMYL SULFIDE

CAS RN: 95307 NIOSH #: EZ 4950000
mf: $C_{12}H_{14}N_2S_3$; mw: 282.46

SYNS:
2-(N,N-DIETHYLDITHIOCARBAMYL)BENZOATHIAZOLE
ETHYLAC

TOXICITY DATA: 2	CODEN:
orl-rbt LD50:2700 mg/kg	RCTEA4 44(2),513,71

Reported in EPA TSCA Inventory, 1980.
THR: MOD orl. See also sulfides.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

1-(2-BENZOTHIAZOLYL)-1,3-DIMETHYL-3-NITROSOUREA

NIOSH #: YR 8980020
mf: $C_{10}H_{10}N_4O_2S$; mw: 250.30

SYN: NITROSOMETHABENZTHIAZURON

TOXICITY DATA:	CODEN:
mmo-sat 1 uL/plate	MUREAV 48,225,77

THR: MUT data.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

2-BENZOTHIAZOLYL MORPHOLINO DISULFIDE

CAS RN: 95329 NIOSH #: DL 5800000
mf: $C_{11}H_{12}N_2OS_3$; mw: 284.43

SYNS:
2-(MORPHOLINODITHIO)BENZOTHIAZOLE
MORPHOLINO-2-BENZOTHIAZOLYL DISULFIDE
N-MORPHOLINYL-2-BENZOTHIAZOLYL DISULFIDE
4-MORPHOLINYL-2-BENZOTHIAZYL DISULFIDE
N-OXYDIETHYL-2-BENZOTHIAZOLSULFENAMID (CZECH)
SULFENAX MOB (CZECH)

TOXICITY DATA: 1	CODEN:
eye-rbt 100 mg/24H SEV	28ZPAK -,203,72
orl-rat LD50:11500 mg/kg	28ZPAK -,203,72

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: LOW orl. SEV rbt eye irr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

2-BENZOTHIAZOLYL-N-MORPHOLINO SULFIDE

CAS RN: 102772 NIOSH #: DL 5950000
mf: $C_{11}H_{12}N_2OS_2$; mw: 252.37

SYNS:
2-BENZOTHIAZOLYLSULFENYL MORPHOLINE
4-(2-BENZOTHIAZOLYLTHIO)MORPHOLINE
2-(MORPHOLINOTHIO)BENZOTHIAZOLE
MORPHOLINYLMERCAPTOBENZOTHIAZOLE
2-(4-MORPHOLINYLTHIO)BENZOTHIAZOLE
N-(OXYDIETHYLENE)BENZOTHIAZOLE-2-SULFENAMIDE
USAF CY-7

TOXICITY DATA: 3	CODEN:
scu-mus TDLo:464 mg/kg:NEO	NTIS** PB223-159
orl-mus LD50:1870 mg/kg	20ZJAG -,64,68
ipr-mus LD50:100 mg/kg	NTIS** AD277-689

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: MOD orl; HIGH ipr. An exper NEO via scu route. See also sulfides.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

BENZO(b)THIEN-4-YL METHYLCARBAMATE

CAS RN: 1079330 NIOSH #: FB 4725000
mf: $C_{10}H_9NO_2S$; mw: 207.26

SYNS:
4-BENZOTHIENYL METHYLCARBAMATE
BENZO(B)THIOPHENE-4-OL, METHYLCARBAMATE
ENT-27041

TOXICITY DATA: 3-2	CODEN:
orl-rat LD50:70 mg/kg	TXAPA9 11,546,67
ipr-rat LD50:40800 ug/kg	BWHOA6 44(1-3),241,71
ivn-rat LD50:24800 ug/kg	BWHOA6 44(1-3),241,71
unk-rat LD50:234 mg/kg	30ZDA9 -,192,71
orl-gpg LDLo:50 mg/kg	JEENAI 60(3),733,67
scu-gpg LDLo:25 mg/kg	JEENAI 60(3),733,67
orl-pgn LD50:273 mg/kg	TXAPA9 20,57,71
orl-ckn LD50:85 mg/kg	TXAPA9 11,49,67
orl-qal LD50:668 mg/kg	TXAPA9 20,57,71
orl-dck LD50:1130 mg/kg	TXAPA9 20,57,71
orl-bwd LD50:58 mg/kg	TXAPA9 20,57,71

THR: HIGH orl, ipr, ivn, unk, scu. MOD orl. See also carbamates.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

(1)BENZOTHIOPYRANO(4,3-b)INDOLE

CAS RN: 239123 NIOSH #: DL 9890000
mf: $C_{15}H_9NS$; mw: 235.31

SYN: BENZ(B)INDOLO(2,3-D)THIOPYRAN

TOXICITY DATA:	CODEN:
mma-sat 30 ug/plate	MUREAV 66,307,79

THR: MUT data.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

6H-(1)BENZOTHIOPYRANO(4,3-b)QUINOLINE

CAS RN: 225570 NIOSH #: DM 0020000
mf: $C_{16}H_{11}NS$; mw: 249.34

SYN: N-NITROSO-N-(2-OXOBUTYL)BUTYLAMINE

TOXICITY DATA: 3	CODEN:
mma-sat 4 umol/plate	CNREAS 37,399,77
orl-rat TDLo:69 gm/kg/20W-C:ETA	GANNA2 67,825,76

THR: MUT data. An exper ETA.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

N-BUTYL-N-(3-OXOBUTYL)NITROSAMINE

CAS RN: 61734905 NIOSH #: EL 7060000
mf: $C_8H_{16}N_2O_2$; mw: 172.26

SYN: N-NITROSO-N-(3-OXOBUTYL)BUTYLAMINE

TOXICITY DATA: 3	CODEN:
mma-sat 4 umol/plate	CNREAS 37,399,77
orl-rat TDLo:69 gm/kg/20W-C:ETA	GANNA2 67,825,76

THR: MUT data. An exper ETA.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

BUTYL PARABEN

CAS RN: 94268 NIOSH #: DH 1980000
mf: $C_{11}H_{14}O_3$; mw: 194.25

SYNS:
BUTYL-p-HYDROXYBENZOATE
N-BUTYL PARAHYDROXYBENZOATE
p-HYDROXYBENZOIC ACID BUTYL ESTER

TOXICITY DATA: 3	CODEN:
skn-gpg 5%/48H MLD	JSCCA5 28,357,77
ipr-mus LD50:230 mg/kg	JSCCA5 28,357,77

THR: HIGH ipr. MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

t-BUTYL PERACETATE

CAS RN: 107711 NIOSH #: SD 8925000
mf: $C_6H_{12}O_3$; mw: 132.18

Clear, colorless benzene solution, insol in water, sol in organic solvents. d: 0.923, vap. press: 50 mm @ 26°, flash p: <80°F (COC).

SYN: t-BUTYL PEROXYACETATE

TOXICITY DATA: 2-1	CODEN:
eye-rbt 100 mg/1M rns MOD	ZAARAM 8,25,58
orl-mus LD50:632 mg/kg	TPKVAL 9,78,67
ihl-mus LCLo:6000 mg/m3	TPKVAL 9,78,67

Reported in EPA TSCA Inventory, 1980.
THR: MOD orl. LOW ihl. An eye irr. See also peroxides.
Incomp: Sensitive to shock and heat; can explode in contact with organic matter.
Fire Hazard: Dangerous via heat, flame, reducers.
To Fight Fire: Dry chemical, alcohol foam, spray and mist.
Explosion Hazard: Pure ester is shock sensitive and detonates. Explodes with great violence when rapidly heated to critical temp.

t-BUTYL PERBENZOATE

CAS RN: 614459 NIOSH #: SD 9450000
mf: $C_{11}H_{14}O_3$; mw: 194.25

Colorless to slight yellow liquid, mild aromatic odor. Insol in water, sol in organic solvents. bp: 112° (decomp), flash p: 19°, fp: 8°, vap. press: 0.33 mm @ 50°, d: 1.0+.

SYNS:
TERT-BUTYLPERBENZOAN (CZECH)
T-BUTYL PEROXY BENZOATE
PERBENZOATE DE BUTYLE TERTIAIRE (FRENCH)

TOXICITY DATA: 3	CODEN:
skn-rbt 500 mg/24H MLD	28ZPAK -,52,72
eye-rbt 100 mg/1M rns MLD	ZAARAM 8,25,58
unk-mus TDLo:311 mg/kg:ETA	RARSAM 3,193,63
orl-rat LDLo:4160 mg/kg	28ZPAK -,52,72
orl-mus LD50:2500 mg/kg	BSPII* 1/75-19B

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: An exper ETA. MOD orl. A skn, eye irr. See peroxides, organic.
Fire Hazard: See peroxides, organic. MOD.
Explosion Hazard: Dangerous in contact with organic matter.
Disaster Hazard: See peroxides, organic.
To Fight Fire: See peroxides, organic.

t-BUTYL PEROXIDE

CAS RN: 110054 NIOSH #: ER 2450000
mf: $C_8H_{18}O_2$; mw: 146.26

Clear, water white liquid. mp: −40°, bp: 80° @ 284 mm, flash p: 65°F (OC), d: 0.79, vap. press: 19.51 mm @ 20°, vap. d: 5.03.

SYNS:
DI-TERT-BUTYLPEROXID (GERMAN)
DI-T-BUTYL PEROXIDE
DI-TERT-BUTYL PEROXYDE (DUTCH)
PEROSSIDO DI BUTILE TERZIARIO (ITALIAN)
PEROXYDE DE BUTYLE TERTIAIRE (FRENCH)

TOXICITY DATA: 3	CODEN:
skn-rbt 500 mg	AIHAAP 19,205,58
eye-rbt 500 mg/24H MLD	28ZPAK -,40,72
eye-rbt 200 mg/1M rns MLD	ZAARAM 8,25,58
unk-mus TDLo:585 mg/kg:ETA	RARSAM 3,193,63
ipr-rat LD50:3210 mg/kg	AIHAAP 19,205,58

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: MOD ipr. Powerful irr via orl and ihl routes. An exper ETA. Skn, eye irr.
Fire Hazard: See peroxides, organic; dangerous.
Explosion Hazard: See peroxides, organic.
Disaster Hazard: See peroxides, organic.
To Fight Fire: Water may not work.

sec-BUTYL PEROXYDICARBONATE

CAS RN: 19910657 NIOSH #: SD 9675000
mf: $C_{10}H_{18}O_6$; mw: 234.28

SYN: DI-SEC-BUTYL PEROXYDICARBONATE

TOXICITY DATA: 2 CODEN:
skn-rbt LD50:1200 mg/kg BSPII* 1/75-19B

Reported in EPA TSCA Inventory, 1980.
THR: MOD skn. See also peroxides, organic.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

t-BUTYL PEROXYPIVALATE

CAS RN: 927071 NIOSH #: SE 0950000
mf: $C_9H_{18}O_3$; mw: 174.27

Colorless liquid, insol in water and ethylene glycol, sol in most organic solvents. d: 0.854 @ 25°/25°, fp: < 19°, flash p: > 155°F (OC), rapid decomp @ 21°.

TOXICITY DATA: 1 CODEN:
orl-rat LD50:4300 mg/kg BSPII* 1/75-19B

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. See also peroxides, organic.
Fire Hazard: Moderate via heat, flame (sparks), oxidizers.
Explosion Hazard: Explodes on heating.
To Fight Fire: Water, fog, mist, alcohol foam, dry chemical.

2-n-BUTYLPHENOL

CAS RN: 3180094 NIOSH #: SJ 8850000
mf: $C_{10}H_{14}O$; mw: 150.24

TOXICITY DATA: 3 CODEN:
skn-mus TDLo:3800 mg/kg/12W-I:NEO CNREA8 19,413,59

THR: An exper NEO.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

4-n-BUTYLPHENOL

CAS RN: 1638228 NIOSH #: SJ 8922500
mf: $C_{10}H_{14}O$; mw: 150.24

TOXICITY DATA: 3 CODEN:
skn-mus TDLo:3840 mg/kg/12W-I:ETA CNREA8 19,413,59

Reported in EPA TSCA Inventory, 1980.
THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

o-sec-BUTYLPHENOL

CAS RN: 89725 NIOSH #: SJ 8920000
mf: $C_{10}H_{14}O$; mw: 150.24

Colorless liquid. bp: 226°-228° @ 25 mm, fp: 12°, flash p: 225°F, d: 0.981 @ 25°/25°.

SYN: 2-SEC BUTYLFENOL (CZECH)

TOXICITY DATA: 3-2 CODEN:
skn-rbt 500 mg/24H SEV 28ZPAK -,55,72
eye-rbt 50 ug/24H SEV 28ZPAK -,55,72
orl-rat LD50:2700 mg/kg 28ZPAK -,55,72
ivn-mus LD50:60 mg/kg JMCMAR 23,1350,80

TLV: Air: 5 ppm DTLVS* 4,58,80. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: HIGH ivn. MOD orl. A skn, eye irr.
Fire Hazard: Low.
To Fight Fire: Foam, spray, CO_2, dry chem.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

p-SEC-BUTYL PHENOL

mf: $(CH_3CHC_2H_5)C_6H_4OH$, mw: 150.2

Nearly white flakes. bp: 135.4°-136.5° @ 25 mm, fp: 51°, flash p: 240°F, d: 0.963 @ 60°/60°.

THR: MOD via oral route.
Fire Hazard: Slight, when exposed to heat or flame.
Disaster Hazard: Mod; when heated to decomp, emits tox fumes.
To Fight Fire: Foam, CO_2, dry chemical.
Incomp: Oxidizing materials.

4-t-BUTYLPHENOL

CAS RN: 98544 NIOSH #: SJ 8925000
mf: $C_{10}H_{14}O$; mw: 150.24

Crystals or practically white flakes. bp: 238°, fp: 97°, d: 0.9081 @ 114°/4°, vap. press: 1 mm @ 70.0°, vap. d: 5.1.

SYNS:
P-TERT.BUTYLFENOL (CZECH)
P-TERT-BUTYLPHENOL
1-HYDROXY-4-TERT-BUTYLBENZENE

TOXICITY DATA: 2-1 CODEN:
skn-rbt 500 mg/24H FCTXAV 12,807,74
eye-rbt 454 mg SEV IHFCAY 6,1,67
eye-rbt 50 ug/24H SEV 28ZPAK -,55,72
skn-gpg 5%/3W MLD JIDEAE 74,241,70
skn-gpg 10%/3W SEV JIDEAE 74,241,70
orl-rat LD50:5660 mg/kg IHFCAY 6,1,67
skn-rbt LD50:2520 mg/kg AIHAAP 30,470,69

Reported in EPA TSCA Inventory, 1980.
THR: A skn, eye irr. MOD skn. LOW orl.
Fire Hazard: Low, when exposed to heat or flame; can react with oxidizing materials.
To Fight Fire: Foam, CO_2, dry chemical.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

4'-(3-(4'-t-BUTYLPHENOXY)-2-HYDROXYPROPOXY)BENZOIC ACID

CAS RN: 56488596 NIOSH #: DG 4927000
mf: $C_{20}H_{24}O_5$; mw: 344.44

SYN: 4-(3-(4-(1,1-DIMETHYLETHYL)PHENOXY)-2-HYDROXYPROPOXY)BENZOIC ACID

TOXICITY DATA: 3-2 CODEN:
orl-rat LD50:2400 mg/kg DRFUD4 4,140,79
ipr-rat LD50:500 mg/kg DRFUD4 4,140,79

...ted in EPA TSCA Inventory, 1980. EPA TSCA ... Preliminary Assessment Information Proposed ...le FEREAC 45,13646,80.
THR: MOD orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

DIISOPROPYLBERYLLIUM

mf: $C_6H_{14}Be$; mw: 95.19

Incomp: Water; explosive.

DIISOPROPYLCARBODIIMIDE

CAS RN: 693130 NIOSH #: FF 2175000
mf: $C_7H_{14}N_2$; mw: 126.23

TOXICITY DATA:	3	CODEN:
...mus LD50:36 mg/kg		CSLNX* NX#05886

Reported in EPA TSCA Inventory, 1980.
THR: HIGH ivn.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

O,O-DIISOPROPYL-S-(DIETHYLTHIOCARBAMYL) PHOSPHORODITHIOATE HYDROSULFIDE

CAS RN: 5827043 NIOSH #: EZ 4900000
mf: $C_{11}H_{24}NO_2PS_3 \cdot H_2S$; mw: 363.59

SYN: O,O-DIISOPROPYL-S-(DIETHYLTHIOCARBAMYL)THIOTHIONOPHOSPHATE HYDROSULFIDE

TOXICITY DATA:	3	CODEN:
...rat LD50:320 mg/kg		28ZEAL 4,175,69
...mus LD50:290 mg/kg		PAREAQ 11,636,59

THR: HIGH orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x, PO_x and NO_x.

N-(2-(O,O-DIISOPROPYL-DITHIOPHOSPHORYL)ETHYL) BENZENESULFONAMIDE

CAS RN: 741582 NIOSH #: TE 0250000
mf: $C_{14}H_{24}NO_4PS_3$; mw: 397.54

SYNS:
...SULIDE
O,O-BIS(1-METHYLETHYL) S-(2-((PHENYLSULFONYL) AMINO) ETHYL)PHOSPHORODITHIOATE
N-(BETA-O,O-DIISOPROPYLDITHIOPHOSPHORYLETHYL) BENZENESULFONAMIDE
S-(O,O-DIISOPROPYL PHOSPHORODITHIOATE) ESTER OF N-(2-MERCAPTOETHYL)BENZENESULFONAMIDE
N-(2-MERCAPTOETHYLBENZENESULFONAMIDE-S-(O,O-DIISOPROPYL PHOSPHORODITHIOATE)
PHOSPHORODITHIOIC ACID, O,O-BIS(1-METHYLETHYL)-S-(2-((PHENYLSULFONYL)AMINO) ETHYL ESTER

TOXICITY DATA:	2	CODEN:
...rat LD50:770 mg/kg		WRPCA2 9,119,70
...rat LD50:3950 mg/kg		31ZOAD 1,34,68
...rat LD50:770 mg/kg		30ZDA9 -,375,71
...rbt LD50:2000 mg/kg		WRPCA2 9,119,70

Toxicology Review: 27ZTAP 3,23,69.
THR: MOD orl, skn, unk. See also esters.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x, SO_x and PO_x.
For further information see Bensulide, Vol. 2, No. 4 of *DPIM Report.*

DIISOPROPYL ESTER SULFURIC ACID

CAS RN: 2973106 NIOSH #: WS 8050000
mf: $C_6H_{14}O_4S$; mw: 182.26

SYNS:
DI-ISOPROPYLSULFAT (GERMAN)
DI-ISOPROPYLSULFATE
ISOPROPYL SULFATE

TOXICITY DATA:	3	CODEN:
scu-rat TDLo:300 mg/kg TFX:ETA		ZKKOBW 79,135,73
orl-rat LD50:1090 mg/kg		AIHAAP 30,470,69
skn-rbt LD50:1410 mg/kg		AIHAAP 30,470,69

EPA TSCA 8E No. 1077006—File Closed as of April, 1979.
THR: An exper ETA. MOD orl, skn. See also esters and sulfates.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

N,N-DIISOPROPYLETHANOLAMINE

CAS RN: 96800 NIOSH #: KK 5950000
mf: $C_8H_{19}NO$; mw: 145.28

Colorless liquid, slightly sol in water. d: 0.8742 @ 20°; vap. press: 0.08 mm @ 20°, fp: −39.3°, bp: 191°, flash p: 175°F (OC).

SYNS:
DIISOPROPYLETHANOLAMINE (DOT)
2-DIISOPROPYLAMINOETHANOL

TOXICITY DATA:	2	CODEN:
skn-rbt 500 mg open MLD		UCDS** 6/6/69
eye-rbt 750 ug SEV		AMIHBC 10,61,54
orl-rat LD50:1070 mg/kg		UCDS** 6/6/69
ipr-rat LD50:1080 mg/kg		TXAPA9 12,486,68
skn-rbt LD50:450 mg/kg		AMIHBC 10,61,54

DOT: Corrosive Material, Label: Corrosive FEREAC 41,57018,76. Reported in EPA TSCA Inventory, 1980.
THR: MOD orl, ipr, skn. A MLD skn irr and SEV eye irr in rbt. See also amines.
Fire Hazard: Mod, when exposed to heat, flame or oxidizers.
To Fight Fire: Dry chemical, CO_2.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

DIISOPROPYL ETHER

CAS RN: 108203 NIOSH #: TZ 5425000
mf: $C_6H_{14}O$; mw: 102.20

Colorless liquid, ethereal odor, miscible in water. mp: −60°, bp: 68.5°, lel = 1.4%, uel = 7.9%, flash p: −18°F (CC), d: 0.719 @ 25°, autoign. temp.: 830°F, vap. press: 150 mm @ 25°, vap. d: 3.52.

SYNS:

DIISOPROPYL OXIDE	2-ISOPROPOXYPROPANE
ETHER ISOPROPYLIQUE (FRENCH)	IZOPROPYLOWY ETER (POLISH)
ISOPROPYL ETHER	

TOXICITY DATA: 2-1	CODEN:
ihl-rat LC50:162 gm/m3	GTPZAB 19(10),55,75
unk-rat LD50:5880 mg/kg	GTPZAB 19(10),55,75
ihl-mus LC50:131 gm/m3	GTPZAB 19(10),55,75
unk-mus LD50:3600 mg/kg	GTPZAB 19(10),55,75
ihl-rbt LC50:121 gm/m3	GTPZAB 19(10),55,75
skn-rbt 363 mg open MLD	UCDS** 4/10/68
ihl-hmn TCLo:800 ppm:IRR	14CYAT 2,1661,63
orl-rat LD50:8470 mg/kg	UCDS** 4/10/68
ipr-mus LD50:812 mg/kg	SCCUR* -,5,61
skn-rbt LD50:20 gm/kg	UCDS** 4/10/68

Aquatic Toxicity Rating: TLm96:1000-100 ppm WQCHM* 3,-,74.

TLV: Air: 250 ppm DTLVS* 4,239,80. OSHA Standard: Air: TWA 500 ppm (SCP-V) FEREAC 39,23540,74. DOT: Flammable Liquid, Label: Flammable Liquid FEREAC 41,57018,76. "NIOSH Manual of Analytical Methods" VOL 3 S368. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.

THR: A hmn IRR; a skn irr. MOD ipr; LOW orl, skn. See also ethers.

Fire Hazard: Dangerous, when exposed to heat, flame or oxidizers.

Spontaneous Heating: No.

Explosion Hazard: Severe, when exposed to heat or flame. Can form peroxides and explode upon shaking unless treated with sodium sulfite. Violent reaction with chlorosulfonic acid, HNO_3.

Disaster Hazard: Dangerous; keep away from heat, sparks or open flame; under some conditions shock will explode it; emits highly tox fumes; reacts vigorously with oxidizing materials.

To Fight Fire: Alcohol foam, CO_2, foam, dry chemical.

N,N-DIISOPROPYL ETHYL CARBAMATE

NIOSH #: EZ 8100000

mf: $C_9H_{19}NO_2$; mw: 173.29

SYN: DIISOPROPYL ETHYL CARBAMATE

TOXICITY DATA: 3	CODEN:
ipr-mus TDLo:6500 mg/kg/13W-I:ETA	JNCIAM 9,35,48

THR: An exper ETA. See also carbamates.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

N,N-DIISOPROPYL ETHYLENEDIAMINE

CAS RN: 121051 NIOSH #: KV 4200000

mf: $C_8H_{20}N_2$; mw: 144.30

SYN: USAF AM-2

TOXICITY DATA: 3	CODEN:
ipr-mus LD50:200 mg/kg	NTIS** AD277-689

Reported in EPA TSCA Inventory, 1980.

THR: HIGH ipr.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

O,O-DIISOPROPYL-S-ETHYL-SULFINYLMETHYLDITHIOPHOSPHATE

CAS RN: 5827054 NIOSH #: TE 4200000

mf: $C_9H_{21}O_3PS_3$; mw: 304.45

SYNS:

O,O-DIISOPROPYL-S-ETHYLSULFINYLMETHYL PHOSPHORODITHIOATE	S-(ETHYLSULFINYL)METHYL O,O-DIISOPROPYL PHOSPHORODITHIOATE

TOXICITY DATA: 3	CODEN:
orl-rat LD50:85 mg/kg	85ARAE 1,202,77
orl-mus LD50:85 mg/kg	28ZEAL 4,176,69

THR: HIGH orl.

Disaster Hazard: When heated to decomp it emits very tox fumes of PO_x and SO_x.

DIISOPROPYL FUMARATE

CAS RN: 7283707 NIOSH #: LT 1575000

mf: $C_{10}H_{16}O_4$; mw: 200.26

TOXICITY DATA: 2	CODEN:
skn-rbt 10 mg/24H MLD	AMIHBC 10,61,54
eye-rbt 500 mg	AMIHBC 10,61,54
orl-rat LD50:3250 mg/kg	AMIHBC 10,61,54

THR: MOD orl; MLD skn and eye irr in rbts.

Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

1,3-DIISOPROPYL GLYCEROL DIETHER

CAS RN: 13021540 NIOSH #: UB 2450000

mf: $C_9H_{20}O_3$; mw: 176.29

SYN: GLYCEROL ALPHA,GAMMA-DIISOPROPYL ETHER

TOXICITY DATA: 2	CODEN:
skn-rbt 455 mg/24H MLD	AMIHBC 2,574,50
eye-rbt 91 mg	AMIHBC 2,574,50
orl-mus LD50:1697 mg/kg	AMIHBC 2,574,50
ipr-mus LDLo:1000 mg/kg	CMDT** -,-,49

THR: MOD orl, ipr. A skn, eye irr. See also ethers.

Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

DIISOPROPYL HYDROGEN PHOSPHITE

CAS RN: 1809207 NIOSH #: SZ 7660000

mf: $C_6H_{15}O_3P$; mw: 166.18

SYNS:

DIISOPROPYL PHOSPHITE	PHOSPHONIC ACID, BIS(1-METHYLETHYL) ESTER
O,O-DIISOPROPYL PHOSPHONATE	DIISOPROPYLPHOSPHONATE
ISOPROPYL PHOSPHONATE	

TOXICITY DATA: 2	CODEN:
mmo-sat 5 uL/plate	MUREAV 28,405,75
unk-mus LD50:2920 mg/kg	AMIHAB 11,487,55

Reported in EPA TSCA Inventory, 1980.

THR: MUT data. MOD unk. See also esters.

Disaster Hazard: When heated to decomp it emits tox fumes of PO_x.

Disaster Hazard: Dangerous; keep away from heat and open flame.
To Fight Fire: Alcohol foam, CO_2, dry chemical.
For further information see Vol. 2, No. 2 of *DPIM Report.*

ISOPENTYL ALCOHOL, PROPIONATE

CAS RN: 105680 NIOSH #: NT 0190000
mf: $C_8H_{16}O_2$; mw: 144.24

Found in Cocoa bean and Bulgarian peppermint (FCTXAV 13,681,75)

SYNS:
ISOAMYL PROPIONATE
ISOPENTYL PROPIONATE
PROPIONIC ACID, ISOPENTYL ESTER

TOXICITY DATA: 1	CODEN:
orl-rbt LD50:6924 mg/kg	IMSUAI 41,31,72

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. See also esters.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ISOPENTYLAMINE HYDROCHLORIDE

CAS RN: 541231 NIOSH #: NT 0200000
mf: $C_5H_{13}N \cdot ClH$; mw: 123.65

SYNS: ISOAMYLAMINE HYDROCHLORIDE

TOXICITY DATA: 2	CODEN:
unk-rbt LDLo:900 mg/kg	27ZWAY 1,250,23
unk-frg LDLo:1500 mg/kg	CHREAY 9,389,31

Toxicology Review: CHREAY 9,389,31.
THR: MOD unk.
Disaster Hazard: When heated to decomp it emits very tox fumes of HCl and NO_x.

S-((N-ISOPENTYLAMIDINO)METHYL) HYDROGEN THIOSULFATE

CAS RN: 40283510 NIOSH #: PB 5030000
mf: $C_7H_{16}N_2O_3S_2$; mw: 240.37

TOXICITY DATA: 3	CODEN:
orl-mus LD50:175 mg/kg	JMCMAR 15,1313,72
ipr-mus LD50:63 mg/kg	JMCMAR 15,1313,72

THR: HIGH orl, ipr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

5-ISOPENTYL-5-ISOPROPENYLBARBITURIC ACID

CAS RN: 67051290 NIOSH #: CQ 7072500
mf: $C_{12}H_{18}N_2O_3$; mw: 238.32

TOXICITY DATA: 3-2	CODEN:
orl-mus LD50:450 mg/kg	JACSAT 61,96,39
ipr-mus LD50:320 mg/kg	JACSAT 61,96,39

THR: HIGH ipr; MOD orl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

5-ISOPENTYL-5-(1-METHYLALLYL)-2-THIOBARBITURIC ACID SODIUM SALT

CAS RN: 67114287 NIOSH #: CQ 7073400
mf: $C_{13}H_{19}N_2O_2S \cdot Na$; mw: 290.39

TOXICITY DATA: 3-2	CODEN:
ipr-rat LD50:444 mg/kg	JAPMA8 34,183,45
ivn-rbt LD50:103 mg/kg	JAPMA8 34,183,45

THR: HIGH ivn; MOD ipr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

ISOPENTYL NITRITE

CAS RN: 110-46-3 NIOSH NT 01875000
mf: $C_5H_{11}NO_2$; mw: 117.17

Transparent, flammable liquid; penetrating fragrant odor. Unstable; decomp on exposure to air and light. d: 0.872 @ 20°/4°; bp: 97°-99°; autoign temp: 408°F; vap d: 4.0; flash p: less than 73.4°F.

SYNS:
ISOAMYL NITRITE
3-METHYLBUTYL NITRITE
NITROUS ACID, 3-METHYL BUTYL ESTER
ISOPENTYL ALCOHOL NITRITE

TOXICITY DATA:	CODEN:
orl-rat LD50:505 mg/kg	FEPRA7 41,1583,82
ihl rat LC50:1274 ppm/1H	FEPRA7 41,1583,82

Reported in EPA TSCA Inventory, 1980. Meets criteria for proposed OSHA Medical Records Rule FEREAC 47,30420,82.
THR: HIGH ihl; MOD orl. A recreational drug said to enhance sexual enjoyment in hmns via ihl.
Fire Hazard: Dangerous. Keep away from oxidizers, flame or heat. Forms an explosive mixture in air or O_2.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

4-ISOPENTYLOXY-beta-(1-PIPERIDYL) PROPIOPHENONE HYDROCHLORIDE

CAS RN: 63957302 NIOSH #: UH 3020000
mf: $C_{19}H_{29}NO_2 \cdot ClH$; mw: 339.95

TOXICITY DATA: 3	CODEN:
scu-mus LD50:70 mg/kg	ARZNAD 5,559,55
ivn-mus LD50:21 mg/kg	JPETAB 115,419,55

THR: HIGH scu, ivn.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and HCl.

ISOPENTYL-alpha-(2-PYRROLIDIN-1'-YLETHYLAMINO)PHENYLACETATE DI (HYDROGEN MALEATE)

CAS RN: 63951495 NIOSH #: MC 0875000
mf: $C_{19}H_{30}N_2O_2 \cdot 2C_4H_4O_4$; mw: 550.67

TOXICITY DATA: 3-2	CODEN:
orl-mus LD50:1100 mg/kg	JPPMAB 12,179,60
ipr-mus LD50:250 mg/kg	JPPMAB 12,179,60
ivn-mus LD50:70 mg/kg	JPPMAB 12,179,60
ivn-rbt LDLo:15 mg/kg	JPPMAB 12,179,60

THR: HIGH ivn, ipr. MOD orl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

ISOPENTYL SALICYLATE

CAS RN: 87207 NIOSH #: VO 4375000
mf: $C_{12}H_{16}O_3$; mw: 208.28

SYNS:
SALICYLIC ACID, ISOPENTYL ESTER
ISOAMYL SALICYLATE
ISOAMYL-O-HYDROXYBENZOATE

TOXICITY DATA: 2	CODEN:
ivn-dog LD50:500 mg/kg	14CYAT 2,1847,63

Toxicology Review: 27ZTAP 3,82,69. Reported in EPA TSCA Inventory, 1980.
THR: MOD ivn.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ISOPENTYL SULFOXIDE

CAS RN: 7726230 NIOSH #: NT 0875000
mf: $C_{10}H_{22}OS$; mw: 190.38

SYNS:
DI-ISO-AMYL SULFOXIDE
ISOAMYL SULFOXIDE

TOXICITY DATA: 3-2	CODEN:
ipr-mus LD50:500 mg/kg	URBAJ 3,41,61
ivn-mus LD50:56 mg/kg	CSLNX* NX#06754

THR: HIGH ivn; MOD ipr.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

ISOPHORONE DIISOCYANATE

CAS RN: 4098719 NIOSH #: NQ 5400000
mf: $C_{12}H_{18}N_2O_2$; mw: 222.32

SYNS:
3-ISOCYANATOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLISOCYANATE
ISOPHORONE DIAMINE DIISOCYANATE

TOXICITY DATA: 3-2	CODEN:
ihl-rat LC50:260 mg/m3/4H	DTLVS* 4,236,80
skn-rat LD50:1060 mg/kg	DTLVS* 4,236,80

TLV: Air: 0.01 ppm (skin) DTLVS* 4,236,80. Reported in EPA TSCA Inventory, 1980.
THR: MOD skn; HIGH ihl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

ISOPHOSPHAMIDE

CAS RN: 3778732 NIOSH #: RP 6050000
mf: $C_7H_{15}Cl_2N_2O_2P$; mw: 261.11

SYNS:
3-(2-CHLOROETHYL)-2-((2-CHLOROETHYL)AMINO) TETRAHYDRO-1,3,2-OXAZAPHOSPHORINE, 2-OXIDE
2,3-(N,N)SUP 1)-BIS(2-CHLOROETHYL)DIAMIDO-1,3,2-OXAZAPHOSPHORIDINOXYD
IPHOSPHAMIDE
NCI-C01638
NSC-109724

TOXICITY DATA: 3	CODEN:
mma-esc 10 mmol/L	ARTODN 33,225,75
ipr-mus TDLo:20 mg/kg (11D preg)	PSEBAA 143,965,73
ipr-mus TDLo:10 mg/kg (11D preg)	PSEBAA 143,965,73
ipr-mus TDLo:450 mg/kg/8W-I TFX:NEO	CNREA8 33,3069,73
mma-sat 1000 ug/plate	PNASA6 72,5135,75
dnr-esc 9 mmol/L	ZKKOBW 92,177,78
sln-dmg-unk 2 mmol/L/24H	MUREAV 33,221,75
mnt-mus-ipr 70 mg/kg/24H	MUREAV 56,319,78
cyt-ham-ipr 3300 ug/kg	ARTODN 38,35,77
ipr-rat TDLo:940 mg/kg/1Y-I:CAR	NCITR* NCI-CG-TR-32,77
ipr-mus TDLo:1600 mg/kg/1Y-I:CAR	NCITR* NCI-CG-TR-32,77
scu-mus TDLo:2600 mg/kg/65W-I:CAR	ARZNAD 29,483,79
ipr-rat TD:1872 mg/kg/1Y-I:CAR	NCITR* NCI-CG-TR-32,77
ipr-mus TD:3120 mg/kg/1Y-I:CAR	NCITR* NCI-CG-TR-32,77
ipr-mus TD:450 mg/kg/8W-I:NEO	CNREA8 33,3069,73
orl-hmn TDLo:150 mg/kg:CNS	CNREA8 32,921,72
orl-hmn TDLo:100 mg/kg:BLD	CCYPBY 3,33,72
ivn-hmn TDLo:2298 mg/kg/3D-I:WBC	EJCAAH 12,195,76
ipr-mus LD50:540 mg/kg	TUMOAB 65,169,79

Toxicology Review: ZKKOBW 88,185,77; KDYIA5 10,82,76. NCI Carcinogenesis Bioassay Completed; Results Positive: Mouse, Rat (NCITR* NCI-CG-TR-32,77).
THR: MUT data. An exper CARC, NEO. A hmn CNS, BLD, WBC. MOD acute ipr.
Disaster Hazard: When heated to decomp it emits very tox fumes of Cl^-, NO_x and PO_x.

ISOPHTHALALDEHYDE

CAS RN: 626197 NIOSH #: NT 1981000
mf: $C_8H_6O_2$; mw: 134.14

SYN: ISOPHTALDEHYDES (FRENCH)

TOXICITY DATA: 3-2	CODEN:
ivn-mus LD50:100 mg/kg	CSLNX* NX#07922
unk-mus LDLo:696 mg/kg	COREAF 246,851,58

THR: HIGH ivn; MOD unk.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ISOPHTHALIC ACID

CAS RN: 121915 NIOSH #: NT 2000000
mf: $C_8H_6O_4$; mw: 166.14

Colorless crystals, slightly sol in water, sol in alcohol and acetic acid, insol in benzene and petroleum ether. mp: 345°-348°. Sublimes without decomp.

p-NITROPHENYL SERINE

CAS RN: 72361003 NIOSH #: VT 9631000
mf: $C_9H_{10}N_2O_5$; mw: 226.21

TOXICITY DATA: 2-1	CODEN:
orl-rat LD50:24000 mg/kg	GISAAA 24(9),15,59
skn-rat LD50:16000 mg/kg	GISAAA 24(9),15,59
ipr-rat LD50:3200 mg/kg	GISAA 24(9),15,59

THR: LOW orl, skn. MOD ipr. See also nitro compounds of aromatic hydrocarbons.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

p-NITROPHENYL 2,4,6-TRICHLOROPHENYL ETHER

CAS RN: 1836777 NIOSH #: KO 2700000
mf: $C_{12}H_6Cl_3NO_3$; mw: 318.54

SYNS:
2,4,6-TRICHLORO-4'-NITRODIPHENYL ETHER
2,4,6-TRICHLOROPHENYL-4-NITROPHENYL ETHER

TOXICITY DATA: 1	CODEN:
orl-rat LD50:10800 mg/kg	85ARAE 2,195,77
orl-mus LD50:11800 mg/kg	FMCHA2 -,D74,80

THR: LOW orl. See also ethers.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and Cl^-.

p-NITROPHENYL alpha,alpha,alpha-TRIFLUORO-2-NITRO-p-TOLYL ETHER

CAS RN: 15457053 NIOSH #: KO 2750000
mf: $C_{13}H_7F_3N_2O_5$; mw: 328.22

SYNS:
2-NITRO-1-(4-NITROPHENOXY)-4-(TRIFLUOROMETHYL)BENZENE
p-NITROPHENYL-2-NITRO-4-(TRIFLUOROMETHYL) PHENYL ETHER

TOXICITY DATA: 1	CODEN:
eye-rbt 100 mg MOD	CIGET* -,-,77
orl-rat LD50:9000 mg/kg	FMCHA2 -,D252,80

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. MOD eye irr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and F^-.

1-NITROPROPANE

CAS RN: 108032 NIOSH #: TZ 5075000
mf: $C_3H_7NO_2$; mw: 89.11

Slightly sol in water; misc in alc and ether. Colorless liquid. bp: 132°, fp: −108°, flash p: 93°F (TCC), d: 1.003 @ 20°/20°, autoign. temp.: 789°F, vap. press: 7.5 mm @ 20°, vap. d: 3.06, lel = 2.2%; misc with many organic solvents.

TOXICITY DATA: 3-2	CODEN:
eye-hmn 150 ppm/15M	JIHTAB 28,262,46
ihl-hmn TCLo:150 ppm:IRR	JIHTAB 28,262,46
orl-rat LD50:455 mg/kg	NPIRI* 1,91,74
ihl-rat LC50:3100 ppm/8H	NPIRI* 1,91,74
ipr-mus LD50:250 mg/kg	KHFZAN 10(6),53,76
orl-rbt LDLo:250 mg/kg	JIHTAB 22,315,40

TLV: Air: 15 ppm DTLVS* 4,309,80. *Toxicology Review:* 27ZTAP 3,102,69. OSHA Standard: Air: TWA 25 ppm (SCP-P) FEREAC 39,23540,74. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: A hmn eye irr and IRR. HIGH ipr, orl; MOD orl, ihl.
Fire Hazard: Mod, when exposed to heat, open flame or oxidizers.
Explosion Hazard: See nitrates. Reacts violently with $Ca(OH)_2$, hydrocarbons, hydroxides, inorganic bases. May explode on heating.
Disaster Hazard: See nitrates.
To Fight Fire: Alcohol foam, CO_2, dry chemical, water spray.
Incomp: Metal oxides.

2-NITROPROPANE

CAS RN: 79469 NIOSH #: TZ 5250000
mf: $C_3H_7NO_2$; mw: 89.11

Sol in water, alcohol and ether. Colorless liquid. bp: 120°, fp: −93°, flash p: 82°F (TCC), d: 0.992 @ 20°/20°, autoign. temp.: 802°F, vap. press: 10 mm @ 15.8°, vap. d: 3.06, lel = 2.6%; misc with many organic solvents.

SYNS:
DIMETHYLNITROMETHANE
ISONITROPROPANE
NITROISOPROPANE

TOXICITY DATA: 3-2	CODEN:
mmo-sat 25 uL/plate	NIOSH* 13APR77
mma-sat 3 uL/plate	ENMUDM 1,383,79
ipr-rat TDLo:2550 mg/kg (1-15D preg)	TXAPA9 48,A35,79
ipr-rat TDLo:2550 mg/kg (1-15D preg)	EPASR* 8EHQ-0381-0386
ihl-rat TCLo:207 ppm/26/W-I:ETA	XPHCI* 26APR77
ihl-man TCLo:20 ppm:GIT	INMEAF 16,441,47
orl-rat LDLo:500 mg/kg	NCNSA6 5,32,53
ihl-rat LC50:400 ppm/6H	JEPTDQ 2,233,78
ipr-mus LD50:75 mg/kg	NTIS** AD691-490
ihl-cat LCLo:714 ppm/5H	AMIHBC 5,52,52
orl-rbt LDLo:500 mg/kg	JIHTAB 22,315,40
ihl-rbt LCLo:2381 ppm/5H	AMIHBC 5,52,52
ihl-gpg LCLo:4622 ppm/5H	AMIHBC 5,52,52

Aquatic Toxicity Rating: TLm96:100-10 ppm WQCHM* 4,-,74.
TLV: Air: 25 ppm DTLVS* 4,309,80. OSHA Standard: Air: TWA 25 ppm (SCP-P) FEREAC 39,23540,74. "NIOSH Manual of Analytical Methods" vol 4 272*. NIOSH Current Intelligence Bulletin 17, 1977. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80. EPA TSCA 8E No. 05780170—Followup Sent as of April, 1979.
THR: MUT data. A hmn GIT. An exper ETA. HIGH ihl, ipr; MOD orl, ihl. Causes hepatocellular carcinoma via inhal route to 207 ppm for 6 months. Can cause gastrointestinal disturbances and injury to liver and

kidneys. Large doses produce methemoglobinemia and cyanosis. See also nitrates.
Fire Hazard: Mod, when exposed to heat, open flame or oxidizers.
Explosion Hazard: May explode on heating; also violent reactions with chlorosulfonic acid, oleum.
Disaster Hazard: See nitrates.
To Fight Fire: Alcohol foam, CO_2, dry chemical, water spray.
For further information see Vol. 2, No. 2 of *DPIM Report.*

3-NITROPROPIONIC ACID

CAS RN: 504881 NIOSH #: UF 6220000
mf: $C_3H_5NO_4$; mw: 119.09

SYNS:
HIPTAGENIC ACID
BETA-NITROPROPIONIC ACID
NCI-C03076

TOXICITY DATA: 3	CODEN:
mmo-sat 100 ug/plate	IRRCCD 27,283,80
orl-rat TDLo:1870 mg/kg/2Y-I:NEO	NCITR* NCI-CG-TR-52,78
ivn-mus LD50:50 mg/kg	85ERAY 2,925,78

NCI Carcinogenesis Bioassay Completed; Results Indefinite: Rat (NCITR* NCI-CG-TR-52,78); Results Negative: Mouse (NCITR* NCI-CG-TR-52,78).
THR: An exper NEO, CARC. HIGH ivn. MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

4-NITRO-7-(4-PROPYL-1-PIPERAZINYL) BENZOFURAZAN 1-OXIDE

CAS RN: 61785522 NIOSH #: DF 8032000
mf: $C_{13}H_{17}N_5O_4$; mw: 307.35

SYN: a2766

TOXICITY DATA:	CODEN:
mmo-sat 10 ug/plate	MUREAV 48,145,77
mma-sat 10 ug/plate	MUREAV 48,145,77

THR: MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

3-NITROPYRENE

CAS RN: 5522430 NIOSH #: UR 2480000
mf: $C_{16}H_9NO_2$; mw: 247.26

SYN: 1-NITROPYRENE

TOXICITY DATA:	CODEN:
mma-sat 1 n mol/plate	SCIEAS 209,1039,80
mma-sat 500 ug/plate	MUREAV 91,321,81

THR: MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

4-NITROPYRIDINE-N-OXIDE

CAS RN: 1124330 NIOSH #: UT 6380000
mf: $C_5H_4N_2O_3$; mw: 140.11

TOXICITY DATA: 3	CODEN:
dns-ham:oth 50 umol/L	NATUAS 229,416,71
mmo-sat 25 ug/plate	MUREAV 58,371,78
mmo-esc 500 umol/L	GANNA2 70,799,79
dnr-esc 500 ug/plate	CNREA8 32,2369,72
mrc-esc 500 ug/plate	CNREA8 32,2369,72
dnd-mus:fbr 50 umol/L	CNREA8 35,521,75
scu-mus TDLo:960 mg/kg/15W-I:ETA	GANNA2 70,799,79
orl-rat LDLo:5 mg/kg	34ZIAG -,430,69
orl-dog LDLo:34 mg/kg	34ZIAG -,430,69

Reported in EPA TSCA Inventory, 1980.
THR: MUT data. An exper ETA. HIGH orl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

N-(4-(5-NITRO-2-PYRROLYL)-2-THIAZOLYL) FORMAMIDE

NIOSH #: LQ 3159500
mf: $C_8H_6N_4O_3S$; mw: 238.24

SYN: 2-FORMYLAMINO-4-(5-NITRO-2-PYRROLYL)THIAZOLE

TOXICITY DATA:	CODEN:
mmo-sat 2500 ng/plate	CNREA8 35,3611,75

THR: MUT data.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

2-NITROQUINOLINE

CAS RN: 18714346 NIOSH #: VC 1750000
mf: $C_9H_6N_2O_2$; mw: 174.17

TOXICITY DATA: 3	CODEN:
scu-mus TDLo:680 mg/kg/31W-I:ETA	GANNA2 60,609,69

THR: An exper ETA in mus.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

5-NITROQUINOLINE

CAS RN: 607341 NIOSH #: VC 1850000
mf: $C_9H_6N_2O_2$; mw: 174.17

TOXICITY DATA:	CODEN:
mma-sat 100 nmol/plate	MUREAV 58,11,78
mmo-esc 500 ug/plate	CNREA8 32,2369,72
dnd-mus:fbr 500 umol/L	CNREA8 35,521,75

THR: MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

6-NITROQUINOLINE

CAS RN: 613503 NIOSH #: VC 1900000
mf: $C_9H_6N_2O_2$; mw: 174.17

Needles; mp: 149°-150°; bp: subl.; slightly sol in cold water; cold alc and ether; sol in benzene.

REFERENCES

REFERENCES

1. Site Inspection Log Book ALD041511361, Uniroyal, Incorporated, January 9, 1985 (interview, observations, measurements, site plans, analytical data of sampling, etc.).

2. ADEM Land, Water, and Air Divisions, file correspondence and staff communications.

3. Uniroyal, Incorporated Preliminary Assessment, ALD041511361, August 28, 1984.

4. Hazardous and Toxic Effects of Industrial Chemicals, Sittig, 1979.

5. AWIC/ADEM compliance monitoring analyses.

6. Alabama G.S. and U.S.G.S. reports, geologic topographic, and soil maps for Lee County.

7. Environmental Data Inventory, State of Alabama, Mobile District, U.S. Army Corps of Engineers, 1981.

8. ADEM Public Water Supply Data and Well Logs for Lee County.

9. Alabama County Data Book, 1983.

10. Alabama Geological Survey - Groundwater Levels in Alabama, various years.

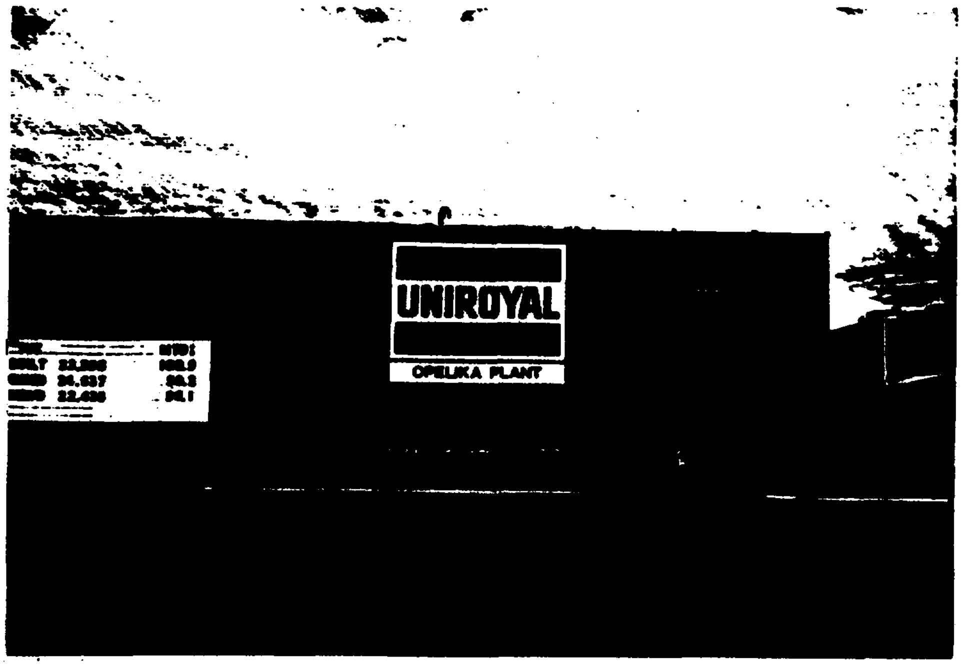
11. Alabama Directory of Mining and Manufacturing, 1982-1983.

12. Climatological Survey for Forty Potential Hazardous Waste Sites in Alabama, prepared by Office of State Climatologist, Jan. 1985.

13. Dangerous Properties Of Industrial Materials, Sixth Edition, N. Irving Sax, 1984.

14. The Merck Index, Ninth Edition, Merck & Co., Inc. 1976.

PHOTOGRAPHS



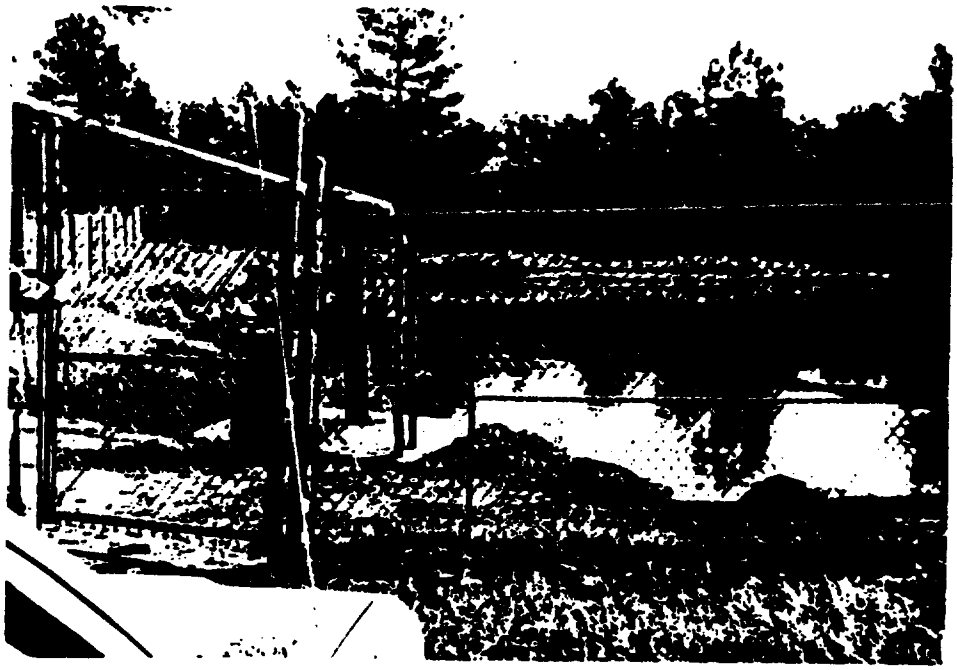
Entrance to Uniroyal facility.

Station UNR-S01-BG

Background sample taken at railroad tracks north of plant.

Active Surface
Impoundment in
NPDES system -
Separator present
in fore-ground.

Active Surface
Impoundment
Stations
UNR-SD3-APD
UNR-SD4-APD
UNR-WA1-APD



Inactive Surface Impoundment - Note sheen in front of boom.

Inactive Surface Impoundment Stations
UNR-SD1-OPD
UNR-SD2-OPD
UNR-WA2-OPD
(Sheen more visible).

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

Alabama RCRA 3012 Site Ranking Scheme
EPS Form 3012-V

Site Name UNIROYAL
Site Number ALD041511361

Site Inspection Ranking Scheme

(Select one answer for each of the following seven questions)

1. Are Hazardous Substances Present?		
A. Confirmed on site!	10 points	
B. Suspected at site!	5 points	X
C. It is unknown!	2 points	
D. No hazardous substances	0 points	
E. RCRA facility only!	0 points	
2. Is There a Pollution Dispersal Pathway?		
A. Direct to surface and/or groundwater.	5 points	X
B. Indirect to surface and/or groundwater.	4 points	
C. Suspected to surface and/or groundwater.	3 points	
D. Not known for sure.	2 points	
E. No pathway.	0 points	
3. Characteristics of Human Population?		
A. High density.	5 points	
B. Medium density.	4 points	
C. Low density.	3 points	
D. No population.	2 points	
4. Characteristics of Natural Environment?		
A. Critical habitat including endangered species, etc.	5 points	
B. Sensitive habitat.	3 points	
C. Common less sensitive habitat.	2 points	X
5. How is Human Population Affected By Site?		
A. Public utility of drinking water from site.	5 points	
B. Direct public access to site.	4 points	
C. Public access to affected surface water.	3 points	X
D. Only potential for human population contact.	2 points	
E. Low or no potential for contact.	1 point	
6. Facility Management Practices at Site?		
A. Site actively supervised and managed currently with monitoring reports and other permit and report requirements.	1 point	
B. Site inadequately managed ~~records not up-to-date~~. ADEM REPORTS PROBLEMS	3 points	X

C. Site not currently managed or regulated. 4 points ______

D. Abandon site. 5 points ______

7. Potential Responsible Parties for Site Operations?

A. Controlling party identified and accepts responsibility for site. 1 point X

B. Suspected controlling party identified but does not accept responsibility for site. 4 points ______

C. No responsible party available. 5 points ______

Ranking Score =

$$\underset{\#1}{5} \times \left[\underset{\#2}{5} + \underset{\#4}{2} + \left(\underset{\#3}{3} \times \underset{\#5}{3} \right) + \underset{\#5}{3} + \underset{\#7}{1} \right]$$

TABLE 1. Ranking Assessment

NUMERICAL RANGE	PRIORITY ASSESSMENT
0-50	NONE
50-150	LOW
150-300	MEDIUM
300-450	HIGH

Ranking Score: 100

Priority Assessment: Low

OVERSIZED

DOCUMENT

LATITUDE AND LONGITUDE CALCULATION WORKSHEET
LI USING ENGINEER'S SCALE (1/60)

SITE NAME: Uniroyal ~~Goodrich~~ Inc. CERCLIS #: ALD041511361

AKA: Uniroyal Goodrich Tire Co. SSID:

ADDRESS: Highway 169 & Uniroyal Rd.

CITY: Opelika STATE: AL ZIP CODE: 36801

SITE REFERENCE POINT: NW corner of building

USGS QUAD MAP NAME: Parkers Crossroads TOWNSHIP: 19 N/S RANGE: 27 E/W

SCALE: 1:24,000 MAP DATE: 1983 SECTION: NE 1/4 ____ 1/4 ____ 1/4

MAP DATUM: 1927 1983 (CIRCLE ONE) MERIDIAN:

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 7.5' MAP (attach photocopy):

LONGITUDE: 85° 15' 00" LATITUDE: ~~85° 15' 00"~~ 32 30 00 KL

COORDINATES FROM LOWER RIGHT (SOUTHEAST) CORNER OF 2.5' GRID CELL:

LONGITUDE: 85° 20' 00" LATITUDE: 32° 35' 00"

CALCULATIONS: LATITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM LATITUDE GRID LINE TO SITE REF POINT: 271

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 89.53"

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 1' 29.53"

D) ADD TO STARTING LATITUDE: 32° 35' 00.00" + 1' 29.53 =

SITE LATITUDE: 32° 36' 29.53"

CALCULATIONS: LONGITUDE (7.5' QUADRANGLE MAP)

A) NUMBER OF RULER GRADUATIONS FROM RIGHT LONGITUDE LINE TO SITE REF POINT: 97

B) MULTIPLY (A) BY 0.3304 TO CONVERT TO SECONDS:

A x 0.3304 = 32.05"

C) EXPRESS IN MINUTES AND SECONDS (1'= 60"): 0' 32.05"

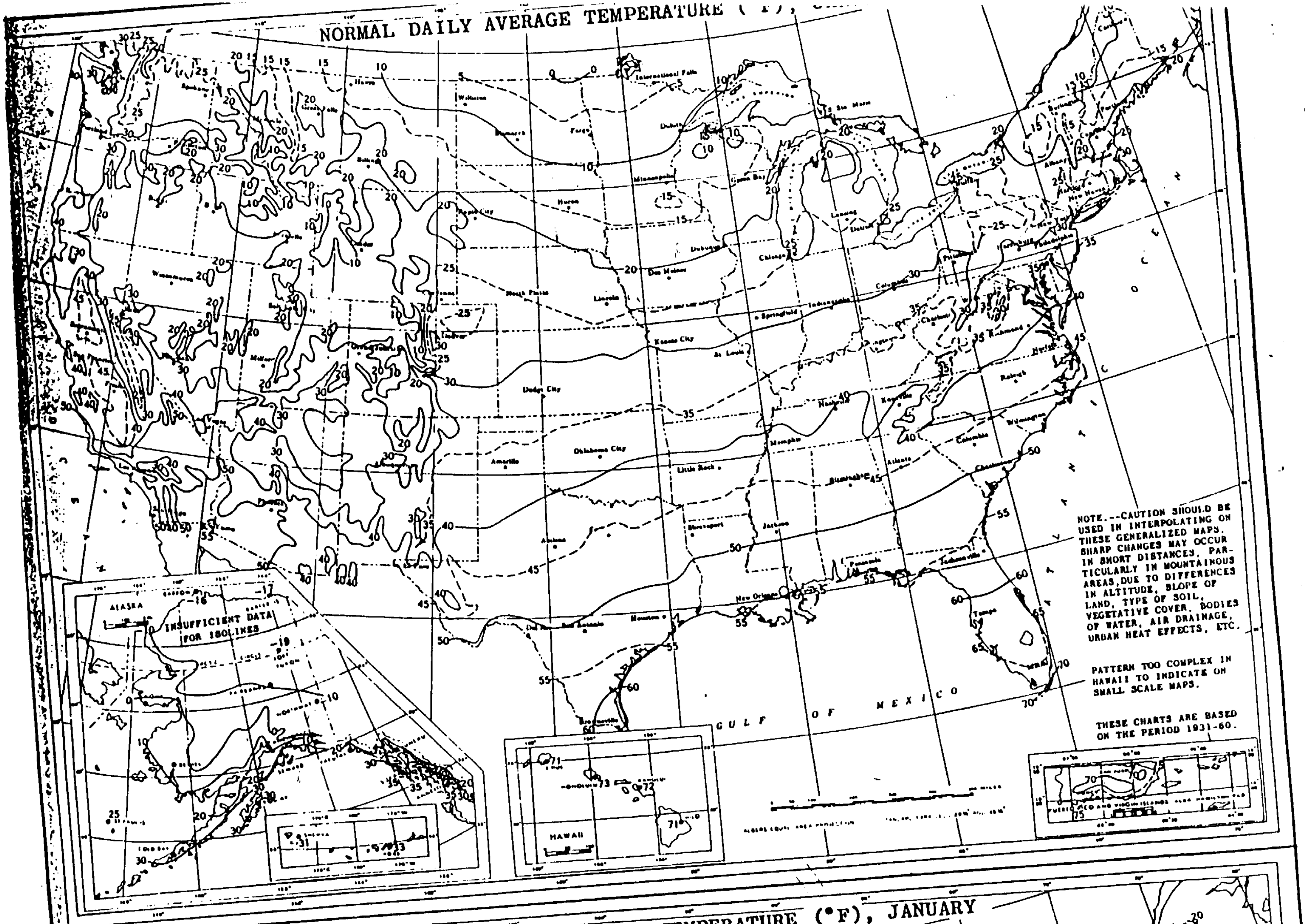
D) ADD TO STARTING LONGITUDE: 85° 20' 00.00" + 0' 32.05 =

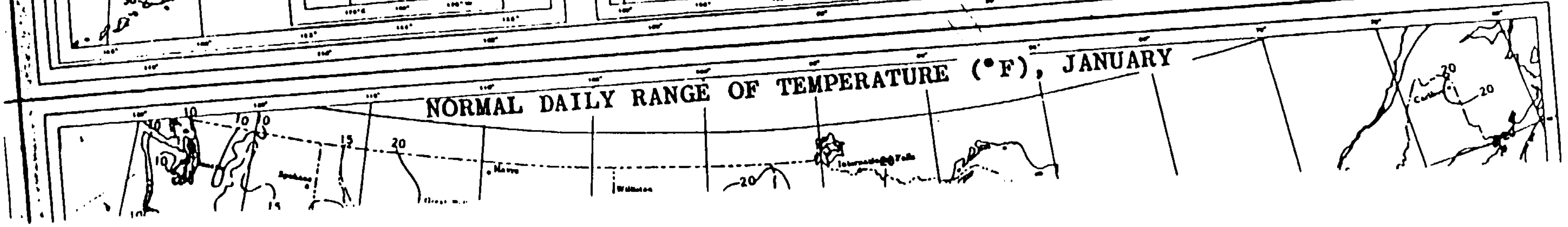
SITE LONGITUDE: 85° 20' 32.05"

INVESTIGATOR: Kenneth A Lewis DATE: 11-30-93

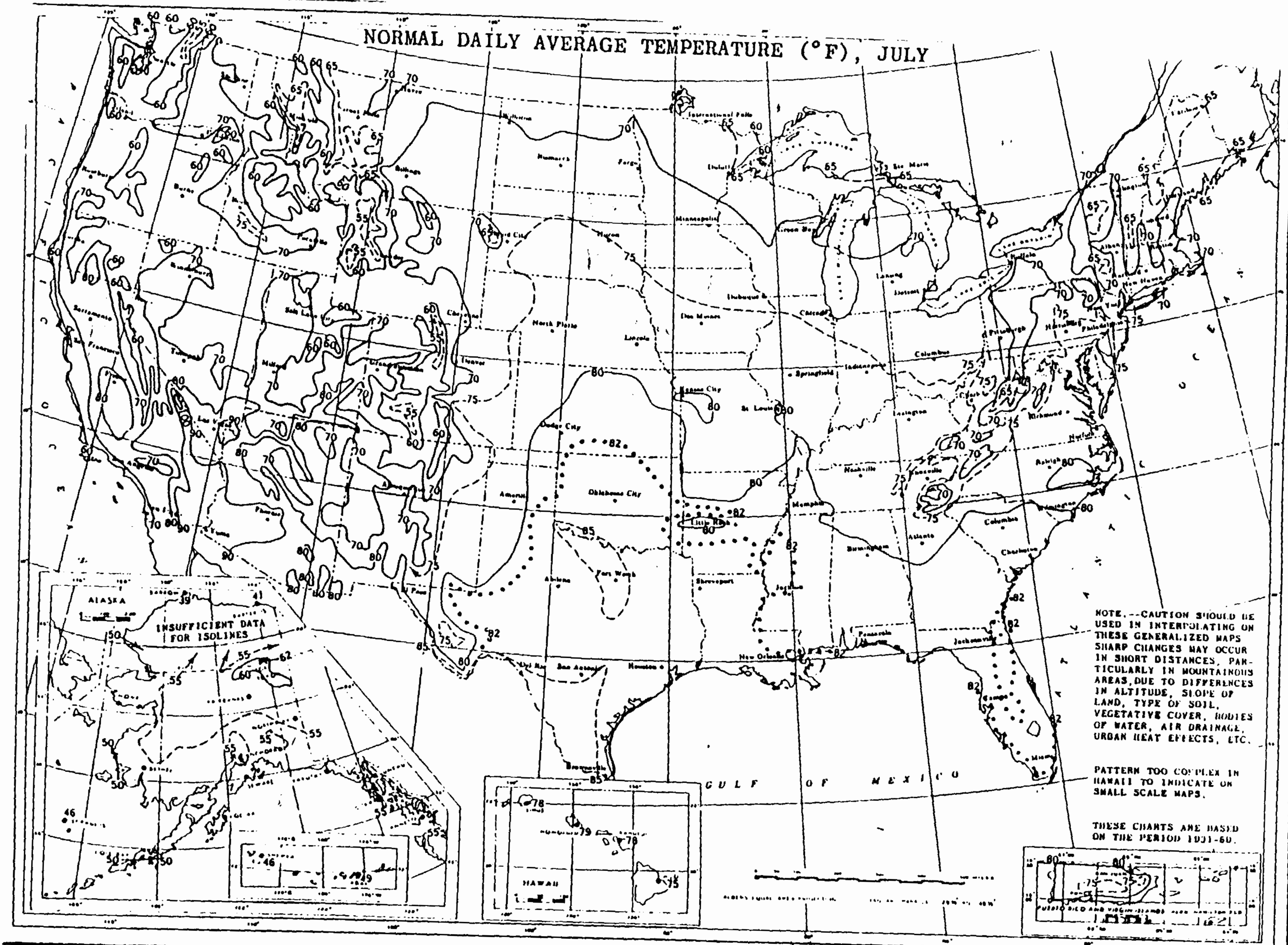
CLIMATIC ATLAS OF THE UNITED STATES

al Scien:e Services Administration . Environmental Data Se

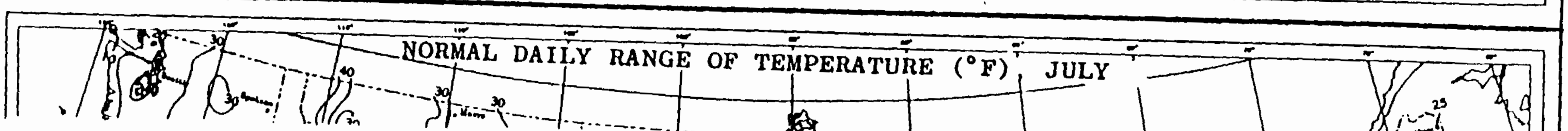

NORMAL DAILY AVERAGE TEMPERATURE
NOTE.--CAUTION SHOULD BE USED IN INTERPOLATING ON THESE GENERALIZED MAPS. SHARP CHANGES MAY OCCUR IN SHORT DISTANCES, PARTICULARLY IN MOUNTAINOUS AREAS, DUE TO DIFFERENCES IN ALTITUDE, SLOPE OF LAND, TYPE OF SOIL, VEGETATIVE COVER, BODIES OF WATER, AIR DRAINAGE, URBAN HEAT EFFECTS, ETC.
PATTERN TOO COMPLEX IN HAWAII TO INDICATE ON SMALL SCALE MAPS.
THESE CHARTS ARE BASED ON THE PERIOD 1931-60.
GULF OF MEXICO
ALASKA
INSUFFICIENT DATA FOR ISOLINES
HAWAII

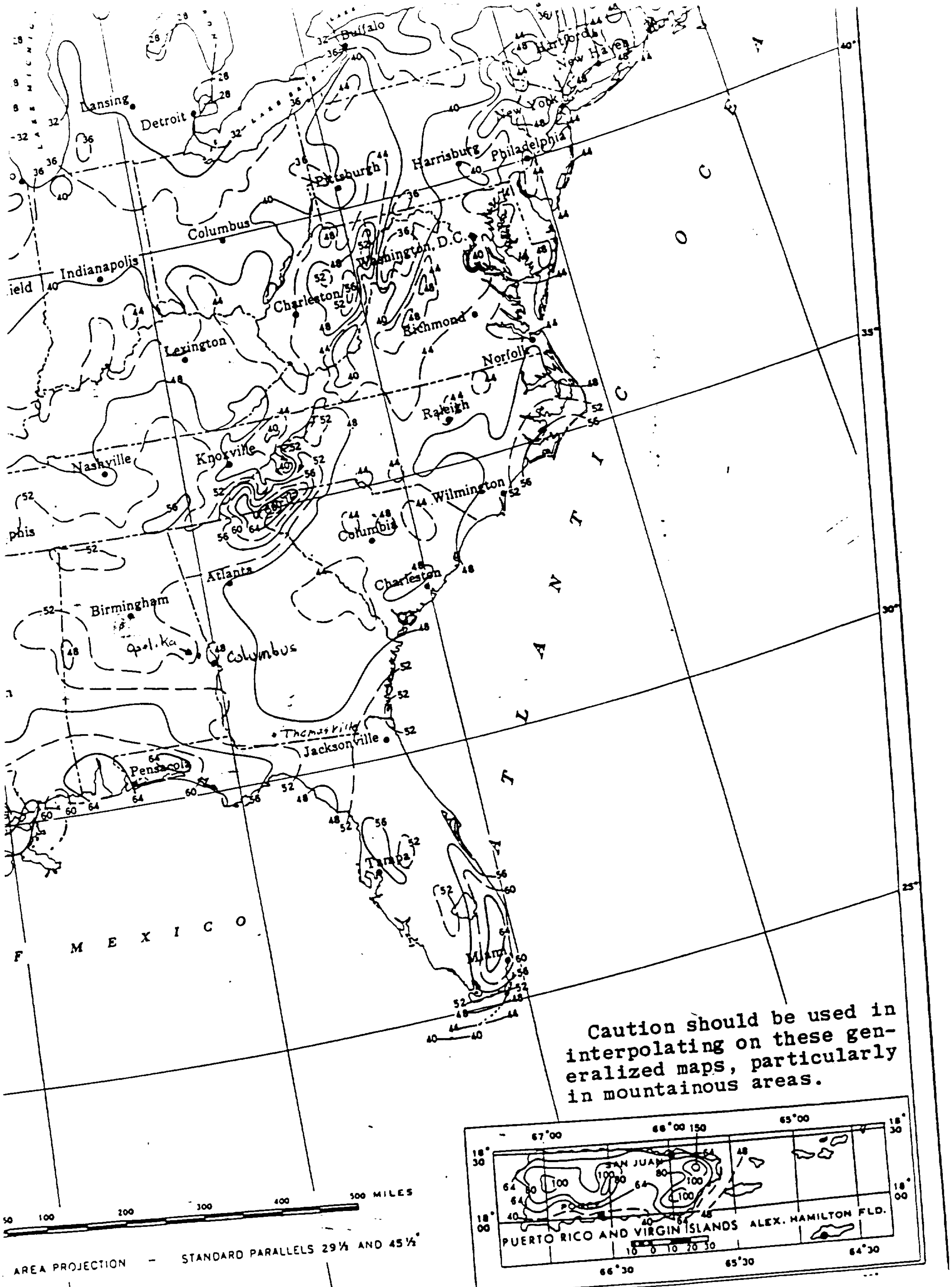

NORMAL DAILY RANGE OF TEMPERATURE (°F), JANUARY

NORMAL DAILY AVERAGE TEMPERATURE (°F), JULY

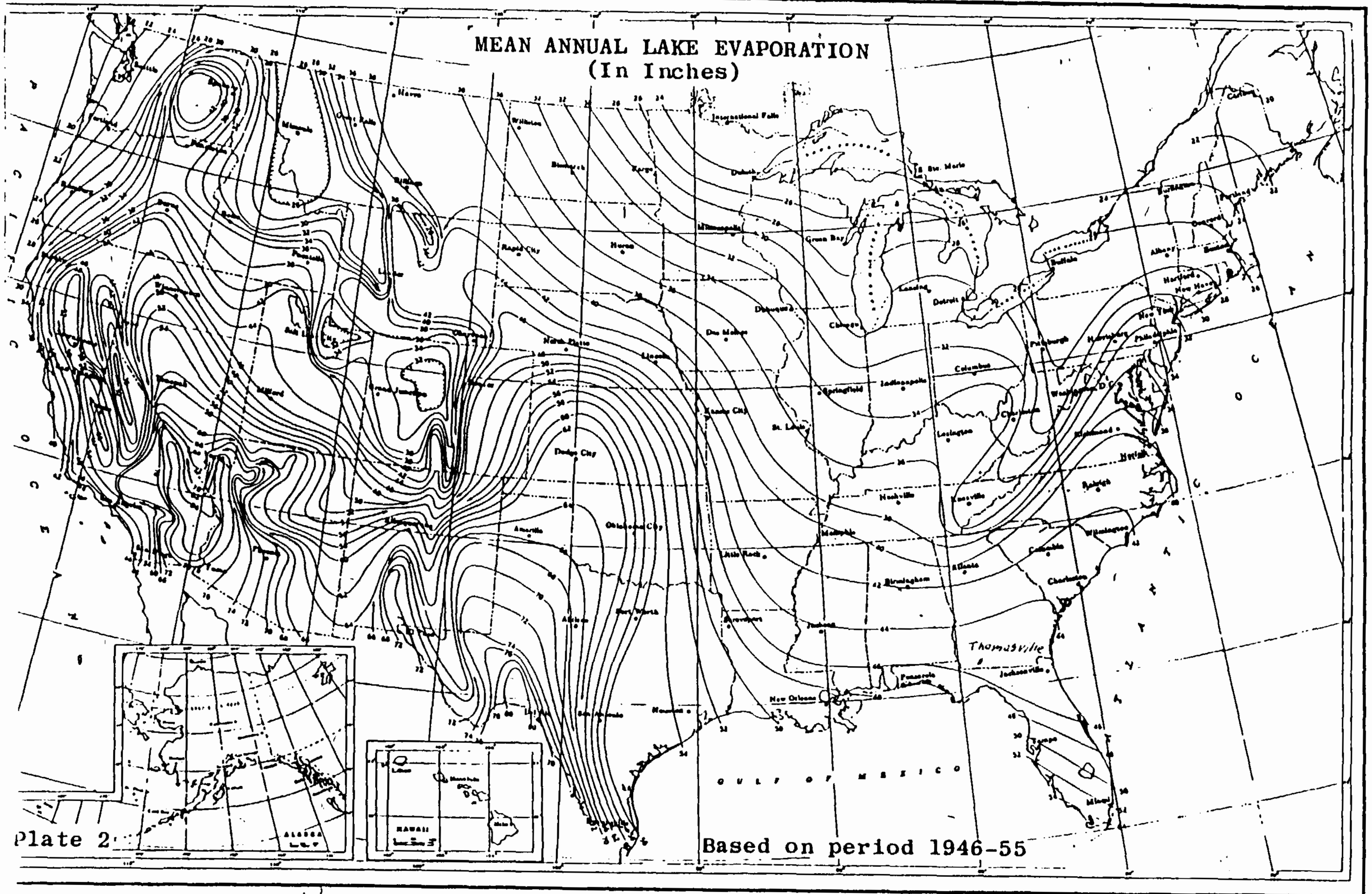


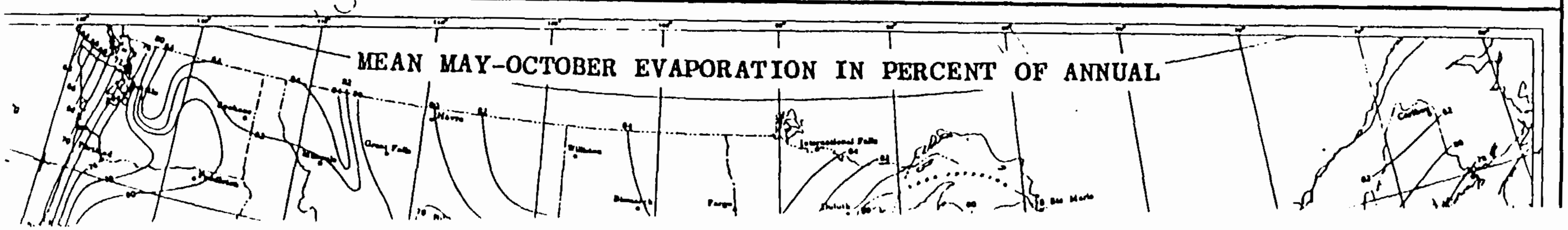
NORMAL DAILY RANGE OF TEMPERATURE (°F), JULY





BASED ON PERIOD 1931-60


MEAN ANNUAL LAKE EVAPORATION
(In Inches)
GULF OF MEXICO
Thomasville
Plate 2
Based on period 1946-55


MEAN MAY-OCTOBER EVAPORATION IN PERCENT OF ANNUAL

U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, Secretary

WEATHER BUREAU
F. W. Reichelderfer, Chief

TECHNICAL PAPER NO. 40

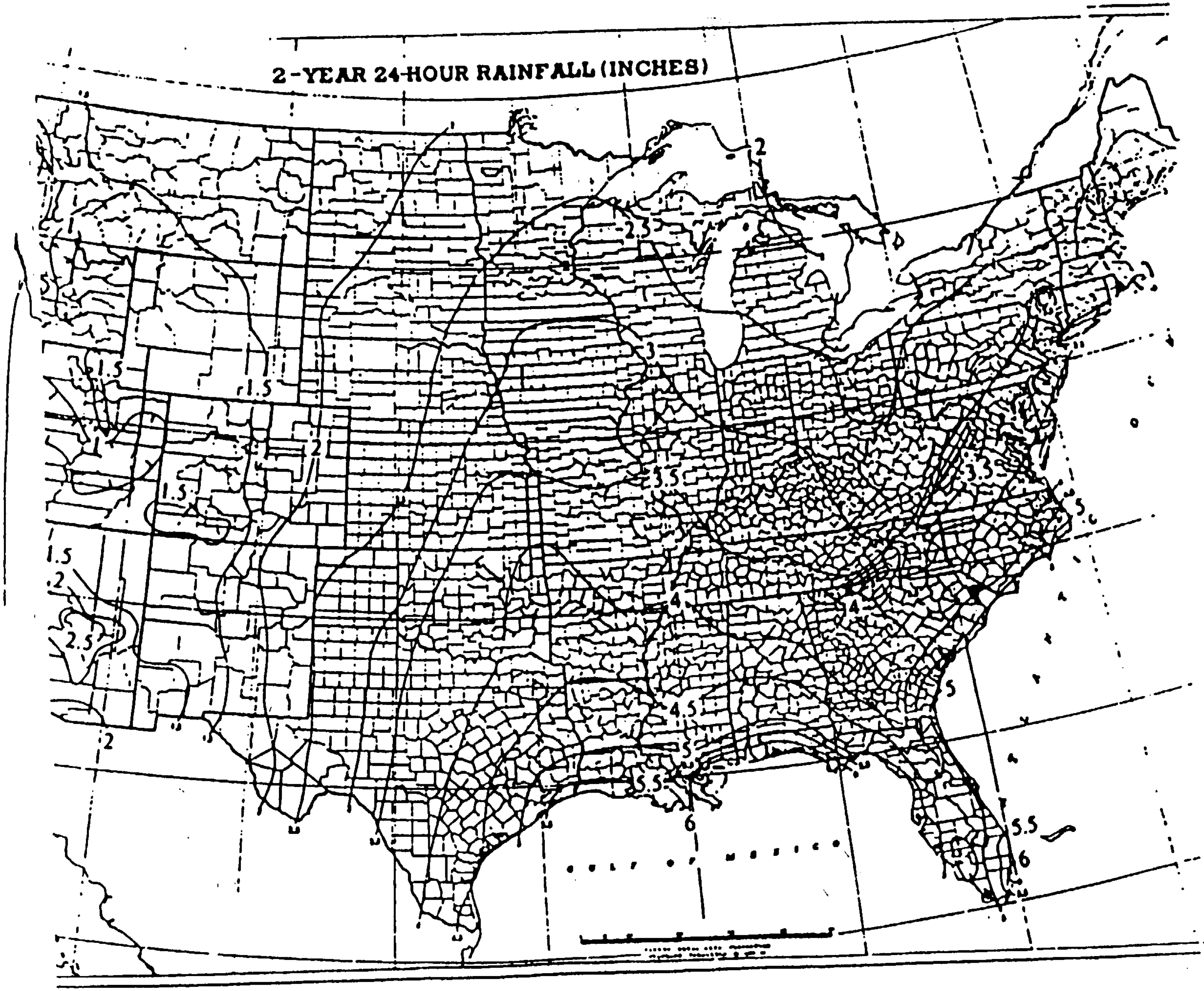
RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

2-YEAR 24-HOUR RAINFALL (INCHES)



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**-------------------------**                                                                        **-------------------------**
* 43-10-08-28-0-000-017.000 *           TAX YEAR 1994                  PRINTED 11/23/93               * 43-10-08-28-0-000-017.000 *
**-------------------------**                                                                        **-------------------------**

OWNER. INDUSTRIAL DEV BOARD OPELIKA         LOT SIZE... 116 AC C                SUBD...                 ACCOUNT #... OPELC07
MAIL..                                      LEGAL DESC. BEG INT E LINE HWY 169 & S LINE SE1/4 TH NWLY 2615'S   FILE........ P
                                                        N 1820' E 2023'S TO E LINE NE1/4 S 1255'S TO E LINE    MUNICIPALITY 1
       CITY HALL                                        HWY 63 SWLY 2400'S TO S LINE SE1/4 W 145'S TO POB      FIRE DIST...
       OPELIKA          AL  36801-0000                  L&E RR R/W IN E1/2 IN S 28 T 19 N R 27 E               TAX EXEMPT.. 9
                                                                                                               TAX DATE.... 93
ST/ADR         HWY 169                      NOTES...... CORRECTED BASE AREA ON BLDG #3 CARD 1A OF 10 2/12/86TP
                                                        (93) RE-VALUE LAND 7/21/93 TRP
DATE ACQ  3/27/68 DEED-  781 PG-    409

       PREVIOUS OWNER / ACCOUNT
INDUSTRIAL DEV BOARD OF CITY  /OPELC07
01 / 01 ============================================== BUILDING ==============================================
   TYPE OF STRUCTURE              -----------C O N S T R U C T I O N   D A T A-----------      ---------------E X T R A   F E A T U R E S---------------
10 -Offices (general)             BUILT 1970   REMODEL    0     ROOMS   0        APTS   0      PLUMB SPECIAL-(      0)      HEAT-AIR----------(      0)
                                  -------FOUNDATION--------     ---------FLOORS----------
 BASE AREA.........  26,160                                      4 Conc & Asphalt        7
                                   3 cont. wall
                                  -----EXTERIOR WALLS------                                                                 UNIT ADJUSTMENTS------(  7)
                                  15 12" Brick        .70 29                                                                 6 front / int.          7
                                  30                  .30       ---------INTERIOR---------
                                                                 7 Drywall         .50 15
                                                                 11 Sus Accous Ceil .50 17
                                  --------ROOF TYPE--------                                    FIREPLACE-----(      0)
                                  11 Steel Truss          15
                                                                -------ELECTRICITY-------                                   MISC $ ADJ--------( 19,018)
                                  ------ROOF MATERIAL------      4 Maximum               5                                          1.  19018
                    --------       3 B.U.Tar & Grav.       3    ---------PLUMBING---------                                          2.      0
 TOTAL ADJ. AREA...  28,688                                      1 None                                                             3.      0
```

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c
H/D	0	98	98	2.96	2.90	28.42	28,688	186,376	1,001,689	75%	$751,270	2/

Reference 6

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**------------------------**                                                                         **------------------------**
* 43-10-08-28-0-000-017.000 *          TAX YEAR 1994                  PRINTED 11/23/93              * 43-10-08-28-0-000-017.000 *
**------------------------**                                                                         **------------------------**

01 / 02 ================================================= BUILDING =================================================
    TYPE OF STRUCTURE            -----------C O N S T R U C T I O N   D A T A-----------    ---------------E X T R A   F E A T U R E S--------------
14 -Manufacturing                BUILT 1970   REMODEL    0    ROOMS   0        APTS    0    PLUMB SPECIAL-(      0)      HEAT-AIR ---------(       0)
                                 -------FOUNDATION--------    ---------FLOORS----------
 BASE AREA......... 767,000                                    3 Conc on Grade          6
                                  3 cont. wall
                                 -----EXTERIOR WALLS------                                                               UNIT ADJUSTMENTS------( 58)
                                  7 8"C.B. Plain     .37 11                                                               2 fr. open steel        18
                                 15 12" Brick        .63 26   --------INTERIOR---------                                   5 heigth                37
                                                               1 Unfinished                                               8 partitions             3

                                 --------ROOF TYPE--------                                  FIREPLACE-----(      0)
                                 11 Steel Truss         15
                                                              -------ELECTRICITY-------                                  MISC $ ADJ--------( 61,536)
                                 ------ROOF MATERIAL------     3 Average                3                                         1.  61536
                     --------     3 B.U.Tar & Grav.      3    --------PLUMBING---------                                           2.      0
 TOTAL ADJ. AREA... 768,275                                    1 None                                                             3.      0

CLASS     CLS-UNI     CST-UNI     TOTAL     BAS-RAT     ADJ-RAT     SQ-FT     ADJ-AREA     EX-FEAT     REP-COST     COND        VALUE        c hmst garb fr
 L/D         0          122        122       1.89        2.31       22.64     768,275      603,053    17,996,799     75%     $13,497,600       2/    /    /
01 / 03 ================================================= BUILDING =================================================
    TYPE OF STRUCTURE            -----------C O N S T R U C T I O N   D A T A-----------    ---------------E X T R A   F E A T U R E S--------------
15 -Warehouse & Storage          BUILT 1970   REMODEL    0    ROOMS   0        APTS    0    PLUMB SPECIAL-(      0)      HEAT-AIR ---------(       0)
                                 -------FOUNDATION--------    ---------FLOORS----------
 BASE AREA......... 460,600                                    5 Concrete Raised        8
                                  3 cont. wall
                                 -----EXTERIOR WALLS------                                                               UNIT ADJUSTMENTS------( 37)
                                 47 Pre Str Conc Dt .63 25                                                                2 fr. open steel        18
                                 30                 .37       --------INTERIOR---------                                   5 heigth                16
                                                               1 Unfinished                                               8 partitions             3

                                 --------ROOF TYPE--------                                  FIREPLACE-----(      0)
                                 10 B.J.& Rigd Insl     14
                                                              -------ELECTRICITY-------                                  MISC $ ADJ--------( 42,392)
                                 ------ROOF MATERIAL------     2 Minimum                1                                          1.  42392
                     --------     3 B.U.Tar & Grav.      3    --------PLUMBING---------                                           2.      0
 TOTAL ADJ. AREA... 460,960                                    1 None                                                             3.      0

CLASS     CLS-UNI     CST-UNI     TOTAL     BAS-RAT     ADJ-RAT     SQ-FT     ADJ-AREA     EX-FEAT     REP-COST     COND        VALUE        c hmst garb fr
 L/D         0           88         88       1.89        1.66       16.27     460,960      415,442     7,915,261     75%      $5,936,450       2/    /    /
```

01 / 04 ==================== BUILDING ====================

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 16,740

-----------C O N S T R U C T I O N D A T A-----------
BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
3 cont. wall

-----EXTERIOR WALLS------
15 12" Brick .63 26
30 .37

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

---------FLOORS----------
3 Conc on Grade 6

--------INTERIOR---------
2 Painted 5

-------ELECTRICITY-------
4 Maximum 5

--------PLUMBING---------
1 None

TOTAL ADJ. AREA... 16,848

---------------E X T R A F E A T U R E S---------------
PLUMB SPECIAL-(0) HEAT-AIR----------(0)

UNIT ADJUSTMENTS------(0)

FIREPLACE-----(0)

MISC $ ADJ--------(14,219)
1. 14219
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
H/D	0	60	60	2.96	1.78	17.44	16,848	139,346	433,175	75%	$324,880	2/ / /

03 / 01 ==================== BUILDING ====================

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 72,000

-----------C O N S T R U C T I O N D A T A-----------
BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
3 cont. wall

-----EXTERIOR WALLS------
15 12" Brick .50 21
42 Alum Sand Panel .50 25

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

---------FLOORS----------
5 Concrete Raised 8

--------INTERIOR---------
1 Unfinished

-------ELECTRICITY-------
2 Minimum 1

--------PLUMBING---------
1 None

TOTAL ADJ. AREA... 158,540

---------------E X T R A F E A T U R E S---------------
PLUMB SPECIAL-(0) HEAT-AIR----------(0)

UNIT ADJUSTMENTS------(53)
2 fr. open steel 19
5 heigth 31
8 partitions 3

FIREPLACE-----(0)

MISC $ ADJ--------(19,008)
1. 19008
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	126	126	1.93	2.43	23.81	158,540	186,278	3,961,115	70%	$2,772,780	2/ / /

 * 43-10-08-28-0-000-017.000 *

04 / 01 ======== BUILDING ========

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 8,246

TOTAL ADJ. AREA... 8,246

-----------C O N S T R U C T I O N   D A T A-----------

BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
15 12" Brick 41

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

----------FLOORS----------
3 Conc on Grade 6

---------INTERIOR---------
1 Unfinished

-------ELECTRICITY-------
2 Minimum 1

---------PLUMBING---------
1 None

---------------E X T R A   F E A T U R E S---------------

PLUMB SPECIAL-(0) HEAT-AIR----------(0)

UNIT ADJUSTMENTS------(56)
2 fr. open steel 18
5 heigth 38

FIREPLACE-----(0)

MISC $ ADJ--------(748)
1. 748
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	122	122	2.27	2.77	27.15	8,246	7,330	231,209	70%	$161,850	2/ / /

05 / 01 ======== BUILDING ========

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 1,650

TOTAL ADJ. AREA... 1,650

-----------C O N S T R U C T I O N   D A T A-----------

BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
15 12" Brick 41

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

----------FLOORS----------
4 Conc & Asphalt 7

---------INTERIOR---------
7 Drywall .50 15
10 Accous Ceiling .50 15

-------ELECTRICITY-------
3 Average 3

---------PLUMBING---------
3 Average no Tile 8

---------------E X T R A   F E A T U R E S---------------

PLUMB SPECIAL-(0) HEAT-AIR----------(0)

UNIT ADJUSTMENTS------(0)

FIREPLACE-----(0)

MISC $ ADJ--------(1,078)
1. 1078
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	107	107	2.62	2.80	27.44	1,650	10,564	55,840	75%	$41,880	2/ / /

----
* 43-10-08-28-0-000-017.000 *
----

06 / 01 ========================== BUILDING ==========================

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 960

TOTAL ADJ. AREA... 960

-----------C O N S T R U C T I O N D A T A-----------

BUILT 1978 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
13 Brick on Masry 38

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

---------FLOORS----------
14 C & U 12

--------INTERIOR---------
7 Drywall .50 15
8 Wood Panel .50 18

-------ELECTRICITY-------
4 Maximum 5

--------PLUMBING---------
3 Average no Tile 8

---------------E X T R A F E A T U R E S---------------

PLUMB SPECIAL-(0) HEAT-AIR----------(0)

UNIT ADJUSTMENTS------(0)

FIREPLACE-----(0)

MISC $ ADJ--------(752)
1. 752
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
H/D+	4	114	118	3.19	3.76	36.85	960	7,370	42,746	85%	$36,330	2/ / /

07 / 01 ========================== BUILDING ==========================

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 1,650

TOTAL ADJ. AREA... 1,650

-----------C O N S T R U C T I O N D A T A-----------

BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
3 Corr Metal 16

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
1 Sheet Metal 2

---------FLOORS----------
3 Conc on Grade 6

--------INTERIOR---------
1 Unfinished

-------ELECTRICITY-------
4 Maximum 5

--------PLUMBING---------
3 Average no Tile 8

---------------E X T R A F E A T U R E S---------------

PLUMB SPECIAL-(0) HEAT-AIR----------(0)

UNIT ADJUSTMENTS------(20)
2 fr. open steel 18
5 heigth 2

FIREPLACE-----(0)

MISC $ ADJ--------(740)
1. 740
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	72	72	2.62	1.89	18.52	1,650	7,252	37,810	77%	$29,110	2/ / /

08 / 01 ==================== BUILDING ====================

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 3,024

-----------CONSTRUCTION DATA-----------
BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

--------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
15 12" Brick .40 16
42 Alum Sand Panel .60 30

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

----------FLOORS----------
5 Concrete Raised 8

---------INTERIOR---------
1 Unfinished

-------ELECTRICITY-------
2 Minimum 1

--------PLUMBING---------
1 None

---------------EXTRA FEATURES---------------
PLUMB SPECIAL-(0) HEAT-AIR ----------(0)

UNIT ADJUSTMENTS------(41)
2 fr. open steel 18
5 heigth 23

FIREPLACE-----(0)

MISC $ ADJ--------(202)
1. 202
2. 0
3. 0

TOTAL ADJ. AREA... 3,074

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	114	114	2.45	2.79	27.34	3,074	1,980	86,023	50%	$43,010	2/ / /

08 / 02 ==================== BUILDING ====================

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 625

-----------CONSTRUCTION DATA-----------
BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

--------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
15 12" Brick 41

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

----------FLOORS----------
5 Concrete Raised 8

---------INTERIOR---------
1 Unfinished

-------ELECTRICITY-------
2 Minimum 1

--------PLUMBING---------
1 None

---------------EXTRA FEATURES---------------
PLUMB SPECIAL-(0) HEAT-AIR ----------(0)

UNIT ADJUSTMENTS------(0)

FIREPLACE-----(0)

MISC $ ADJ--------(86)
1. 86
2. 0
3. 0

TOTAL ADJ. AREA... 625

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	68	68	2.78	1.89	18.52	625	843	12,418	50%	$6,210	2/ / /

----
* 43-10-08-28-0-000-017.000 *
----

09 / 01 ============================== BUILDING ==============================

TYPE OF STRUCTURE
15 -Warehouse & Storage

BASE AREA......... 5,820

TOTAL ADJ. AREA... 5,820

-----------C O N S T R U C T I O N   D A T A-----------

BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
3 Corr Metal 16

--------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
1 Sheet Metal 2

---------FLOORS----------
3 Conc on Grade 6

--------INTERIOR---------
1 Unfinished

-------ELECTRICITY-------
2 Minimum 1

--------PLUMBING---------
1 None

---------------E X T R A   F E A T U R E S---------------

PLUMB SPECIAL-(0)
HEAT-AIR ---------(0)

UNIT ADJUSTMENTS------(18)
2 fr. open steel 18

FIREPLACE-----(0)

MISC $ ADJ--------(0)
1. 0
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/E	12-	58	46	2.32	1.07	10.49	5,820	0	61,052	72%	$43,960	2/ / /

10 / 01 ============================== BUILDING ==============================

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 144

TOTAL ADJ. AREA... 144

-----------C O N S T R U C T I O N   D A T A-----------

BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

-------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
15 12" Brick 41

--------ROOF TYPE--------
1 Flat-Shed 7

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

---------FLOORS----------
3 Conc on Grade 6

--------INTERIOR---------
1 Unfinished

-------ELECTRICITY-------
2 Minimum 1

--------PLUMBING---------
1 None

---------------E X T R A   F E A T U R E S---------------

PLUMB SPECIAL-(0)
HEAT-AIR----------(0)

UNIT ADJUSTMENTS------(0)

FIREPLACE-----(0)

MISC $ ADJ--------(0)
1. 0
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	58	58	2.78	1.61	15.78	144	0	2,272	77%	$1,750	2/ / /

----
* 43-10-08-28-0-000-017.000 *
----

11 / 01 ========== BUILDING ==========

TYPE OF STRUCTURE
14 -Manufacturing

BASE AREA......... 672

TOTAL ADJ. AREA... 744

-----------C O N S T R U C T I O N D A T A-----------

BUILT 1970 REMODEL 0 ROOMS 0 APTS 0

--------FOUNDATION--------
1 slab

-----EXTERIOR WALLS------
15 12" Brick 41

---------ROOF TYPE--------
11 Steel Truss 15

------ROOF MATERIAL------
3 B.U.Tar & Grav. 3

---------FLOORS----------
3 Conc on Grade 6

---------INTERIOR---------
1 Unfinished

--------ELECTRICITY-------
2 Minimum 1

--------PLUMBING---------
1 None

---------------E X T R A F E A T U R E S---------------

PLUMB SPECIAL-(0) HEAT-AIR ---------(0)

UNIT ADJUSTMENTS------(0)

FIREPLACE-----(0)

MISC $ ADJ--------(0)
1. 0
2. 0
3. 0

CLASS	CLS-UNI	CST-UNI	TOTAL	BAS-RAT	ADJ-RAT	SQ-FT	ADJ-AREA	EX-FEAT	REP-COST	COND	VALUE	c hmst garb fr
L/D	0	66	66	2.78	1.83	17.93	744	0	13,340	77%	$10,270	2/ / /

========== IMPROVEMENTS ==========

	CODE	DESCRIPTION	RATE	SQ-FT	AREA	REP-COST	COND	MH-SIZE	YEAR	COLOR	VALUE	c hmst garb fr
01 / 01	I	ASP PAV	.06	.59	624,170	368,260	33%				$121,530	2/ / /
01 / 02	I	CONC PAV	.17	1.67	156,575	261,480	41%				$107,210	2/ / /
01 / 03	I	CURBS	.70	6.86	12,000	82,320	41%				$33,750	2/ / /
03 / 01	I	C L FENCE	.80	7.84	10,055	78,831	49%				$38,630	2/ / /
03 / 02	I	R R SPUR	4.80	47.04	6,125	288,120	41%				$118,130	2/ / /
06 / 01	I	CANOPY	1.50	14.70	80	1,176	81%				$950	2/ / /

========== LAND ==========

	CODE	QUANTITY	TYPE	UNIT PRICE	FRONTAGE	DEPTH	DEP/FAC	ADJUSTMENTS	H/SITE	C/U	VALUE	c hmst
01	S	435,600.000 Sq		$.40							$174,240	2/
02	A	106.000 Ac		$3,000.00							$318,000	2/

==========

**** T O T A L V A L U E S **** BUILDING-$23,657,350 IMPROVEMENT-- $420,200 LAND-- $492,240 TOTAL VALUE $24,569,790 R- 0/B- 0/F- 0

```
******************************************************************************
**                                                                          **
**        PRINT KEY FROM-R7        BY USER-ERS        11/23/93    14.42.54  **
**                                                                          **
******************************************************************************
```

```
    43 10 08 28 0 000 013000            File: 1994          Acc# WILSAL1
        Street Address                    Description (not complete)
         HWY 169                  size 650'S(719'D)X526'S(5  subd
           Owner                  BEG NE COR SE1/4 TH W 580.4'D - 526'S TO E LI
  WILSON A L                      169 SELY 719'D - 650'S TO E LINE SW1/4 N 429.
                                  385'S TO POB IN NE1/4 SW1/4 IN S 28 T 19 N R

  1312 CRAWFORD RD
  OPELIKA        AL   36801 0000  Date Acq  5/09/74    Deed   927    Page   528
   Notes
```

```
                  File Cd/En Typ  Description   Class  Area  Cd    Value  H/C
    TOTALS          B  01 01     Single Family Re HC-  2,021 85    65,250 1 3
  bldg     65,250   I  01 01  I  UT 8X8                   64 57       150 1 3
  imp         150   L     01  L                                    12,500 1 3
  land     12,500
      ------------
          $77,900
  type date   price
   no sales found                            screen 1 of 1
```

```
****************************************************************************************
**                                                                                    **
**          PRINT KEY FROM-R7       BY USER-ERS        11/23/93     14.42.38           **
**                                                                                    **
****************************************************************************************
```

```
    43 10 08 28 0 000 012001           File: 1994           Acc# STOVSG
        Street Address                   Description (not complete)
         CRAWFORD RD              size 6.643 AC C            subd J T GARNER
           Owner                  PAR 4, J T GARNER SD, PB 12/52  SEC 28, T19N,
 STOVER SANDRA G/KENNETH R


 1210 CRAWFORD RD
 OPELIKA        AL    36801 0000   Date Acq  0/00/00    Deed  1003    Page   337
  Notes
    1   10-434 AC, LINE & DESC CHANGE 9/22/86 BA
    2   ADD HS 3/31/87 JW
    3   REMOVE RES 4/21/87 TRP  KI/1593/315 7/22/91


                 File Cd/En Typ   Description    Class  Area  Cd     Value  H/C
    TOTALS         L     01  A                                      55,680 0 2
 bldg          0
 imp           0
 land     55,680
     ------------
        $55,680
 type date   price
  no sales found                               screen 1 of 1
```

```
********************************************************************************
**                                                                            **
**          PRINT KEY FROM-R7       BY USER-ERS       11/23/93    14.39.51    **
**                                                                            **
********************************************************************************
```

```
    43 10 08 27 0 000 011000          File: 1994          Acc# SCREEA2
        Street Address                   Description (not complete)
         COUNTY RD 63            size 158 AC C              subd
           Owner                 SW1/4 E OF HWY 63 IN S 27 T 19 N R 27 E OPELI
  SCREW EUEL A JR/WM R/ (CONT)


  P O BOX 347
  MONTGOMERY    AL   36101 0000   Date Acq  9/10/81    Deed  1115    Page 46&49
   Notes
     1   NAME CONT;SIZEMORE ROBERT D SEQUALL(1/3 INT)
     2   DEED REF CONT;3/11/82-1123/581
     3   10-164 NAME CHANGE 4/7/83BA


                    File Cd/En Typ   Description   Class  Area  Cd    Value   H/C
     TOTALS          L      01  A                                   103,640 0 3
  bldg         0     L      02  A                                     4,000 0 3
  imp          0
  land   107,640
     -----------
      $107,640
  type date   price
   no sales found                               screen 1 of 1
```

```
******************************************************************************
**                                                                          **
**          PRINT KEY FROM-R7        BY USER-ERS        11/23/93    14.40.05  **
**                                                                          **
******************************************************************************
```

```
    43 10 08 27 0 000 008000            File: 1994          Acc# E045200
        Street Address                    Description (not complete)
         COUNTY RD 44              size 152 AC C             subd
           Owner                   NW1/4 OF S 27 T 19 N R 27 E
  EAST AL PAVING CO INC


  BOX 11 OLD COLUMBUS RD
  OPELIKA        AL   36801 0000   Date Acq  5/22/89    Deed  1443    Page   218
   Notes
     2   10-534 NAME CHANGE 9/23/86 BA
     3   ADD G/F 3/31/87 JW
     4   CORRECTED SHORT NAME 5/14/87 JW
     5   2746 NAME CHANGE 1/29/90 TRP

                  File Cd/En Typ   Description   Class  Area  Cd    Value  H/C
    TOTALS          B  01 01      Single Family Re HF+    598 30    3,180 0 2
  bldg      3,180   I  01 01  I  B-41 48X21            1,008 16      470 0 2
  imp         470   L     01  A                                   19,690 0 2
  land    106,150   L     02  A                                   86,460 0 2
      ------------
     $109,800
  type date   price
   44  6/89   258,400                         screen 1 of 1
```

OVERSIZED

DOCUMENT

Reference 8

site to
r drainage.
ertain. North
bly drains
g facility,
hy area.
of processess
e south.
ssable by

Ken Fern
11-23-93

4

1430 Arrived in Opelika, AL and located Uniroyal Inc on Kt ~~Georgia~~ Alabama Hiway 169, southeast of Opelika, AL. Very large facility. I will go to County Tax Assessors office first to get property boundary

1500 Visited Tax appraisers office of Lee County to verify ownership. Uniroyal property is owned by Industrial Development Board of Opelika. 116 acre tract. See map next page. Obtained printouts.

1600 Went to Uniroyal Inc facility for recon visit

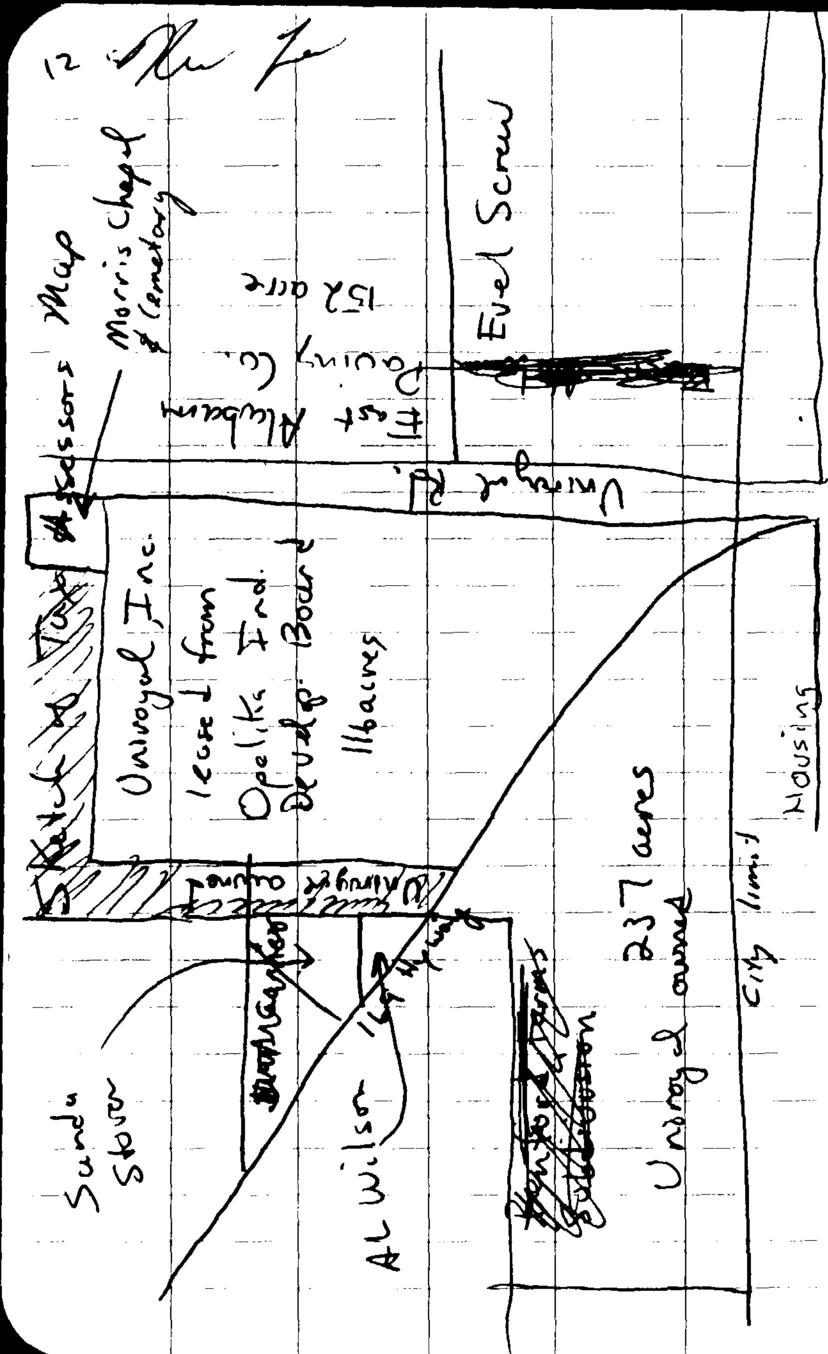
Photo 1 W Back of facility

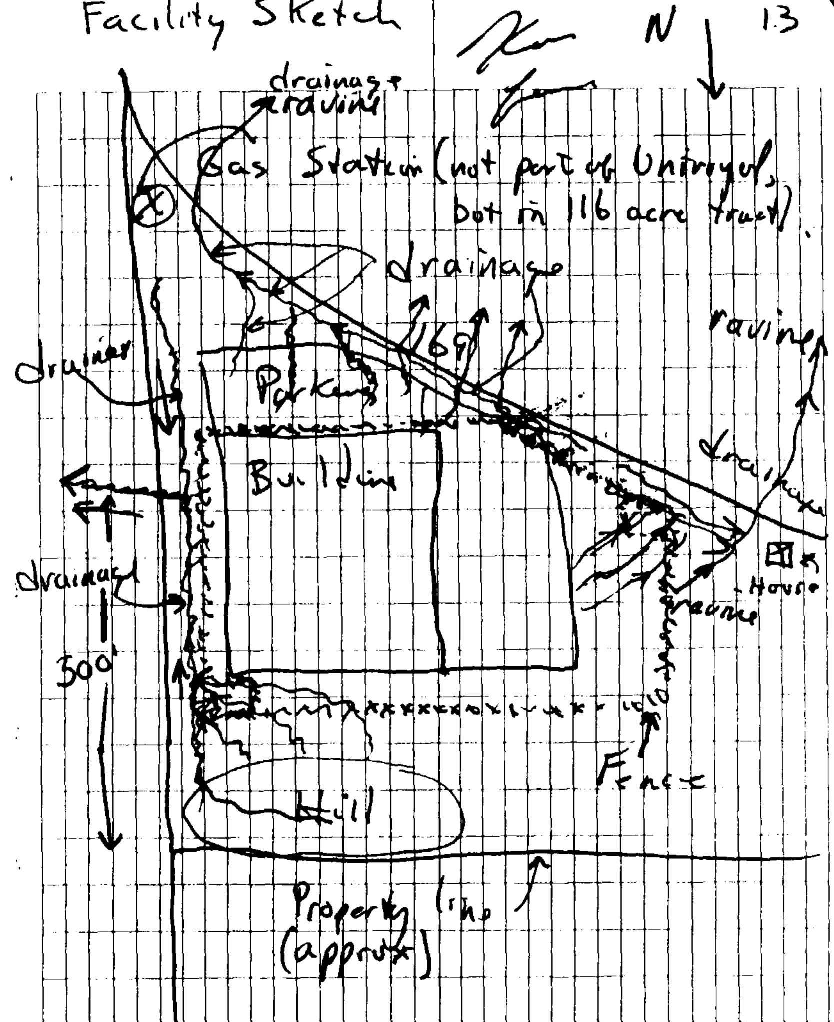
Photo 2 NW Hill behind facility

Photo 3 S Drainage ditch on east side of facility. Drainage appears to come from hill on north and is routed around facility to ditch on east side.

Facility is secured by a chain-link fence. Facility is active

Photo 4 SE Woods to east of Uniroyal Rd





Property owned by Uniroyal is not part of facility.
Property surrounding Uniroyal is mostly rural. No other manufacturing close by.

[signature] 11-23-93

Photo 5 N East Side drainage
Photo 6 S East Side drainage
Photo 7 S Location where east side drainage from north & south converge at manmade drainage point. It could not be ascertained where the drainage leads from that point. It is apparent that it crosses under Uniroyal Rd to the east, but the outfall could not be located due to dense vegitation.
Photo 8 E ~~Location~~ of Suspected Location of outfall
End of Roll 1 of film
1630 Went to west side of facility. There are multiple drainage ditches from the facility. Most drain to a ravine on south side of Uniroyal (leased) property.
1635 Photo 1 W Facility from south parking lot
2 NW " " " " "
3 N " " " " "
4 E Facility from 169 Hiway

[signature]

Photo 5 Facility from 169 Hiway
Photo 6 " " " "
Drainage on west side is also split. Approx. 1/3 of west side (south) drains to ravine going south. Middle 1/3 drains west across 169 (under it) to property across Hiway. That property is posted "Opelika Sewage Pond". Northern 1/3 drains north along 169 Hiway to a ravine on north side of property.
Photo 7 Property on west side of 169
Photo 8 Ravine at southwest corner
9 Surface water on west side of 169 Hiway from drainage off of Uniroyal facility.
Residences are along 169 Hiway ~~at cross~~ across from the facility.
1700 Left site

[signature]
11-23-93

11-24-93

0730 Went to Opelika WTP
Baurgard Water Works (west-north)
Smith Station (east)

Opelika is all surface water
for raw water. Two sources
One source on Lake Harding
(off maps)
One source on Lake Saugahatchee.
≈ 4.5 MGD (average)
≈ 30,000 people
Used to use Spring Villa. Do
not use it anymore. Will not
use it again.
Dan Hilyard - Opelika Water Works
Baurgard Water 749-4900 John
Smith Station 298-~~6882~~ 0342

1000 Met w/ Beauregard Water
John Woods
3 wells - 2 within 4-mile radius
≈ 450,000 gallons / day
Wells ~~screened~~ depth at 220 ft (all)
He plotted wells and service areas
on maps. Two connections w/ Opelika
WTP (on map).

11-24-93

1100 Met w/ Smith Station water
authority. 205-756-2131
Lee-Chambers water authority
According to Rick Ruth
at Smith Station. An area east
of Uniroyal is not served by
any water authority.

- Smith City raw water from Lake Oliver.
- They have one tie-in with Phenix City, but no else.
- Area east of Uniroyal Inc that is currently not served, will be served by Smith Station when they expand. Their expansion into the area has been approved by state according to Mr. Ruth. It will be several years, at least, before the service begins. No construction has begun yet. Left to return to Atlanta.

K-L- 11-24-93

Reference 9

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV	BVWST Project 52012.193
Uniroyal SIP	BVWST File
Ownership of Tract No 2 on Tax map	January 4, 1994
48-10-08-28.	1530

To: Donna Brisky
Company: Lee County Tax Assessor
Phone No.: (205)745-9786

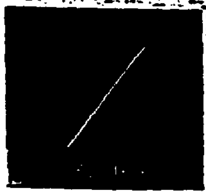
Recorded by: K.A. Lewis

Ms. Brisky stated that Uniroyal Goodrich Tire Co. owns the 237-acre tract of land labeled as Parcel No 2 on tax map 48-10-08-28. I asked her to send me a computer printout to verify ownership. She cannot send me a computer printout of that property because Uniroyal has restricted the information on the printout.

<u>OVERSIZED</u>

<u>DOCUMENT</u>

KEY TO MAP



500-Year Flood Boundary

100-Year Flood Boundary

Zone Designations* With Date of Identification e.g., 12/2/74

100-Year Flood Boundary

500-Year Flood Boundary

Base Flood Elevation Line With Elevation In Feet** — 513 —

Base Flood Elevation in Feet Where Uniform Within Zone** (EL 987)

Elevation Reference Mark RM7×

River Mile • M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
NOVEMBER 26, 1976

FLOOD HAZARD BOUNDARY MAP REVISIONS:
FEBRUARY 8, 1980

OVERSIZED

DOCUMENT

Reference 12

RCRA SAMPLING INVESTIGATION
UNIROYAL TIRE COMPANY
OPELIKA, ALABAMA

RCRA SAMPLING INVESTIGATION
UNIROYAL TIRE COMPANY
OPELIKA, ALABAMA
EPA ID #ALD041511361
JUNE 21, 1984

INTRODUCTION

A RCRA sampling investigation was conducted at the Uniroyal Tire plant, Opelika, Alabama on March 28, 1985 (Figure 1). The investigation was conducted by Mr. Jim Kopotic and Ms. Michelle Glenn, U. S. Environmental Protection Agency (US-EPA), Environmental Services Division. Facility representative present during the investigation were by Mr. Palmer Peterson, Ms. Ethel Hattum, and Mr. George Rice.

This investigation was requested by Mr. Larry Dunning, US-EPA, Waste Management Division, during a telephone conversation with M. D. Lair, Environmental Services Division, on March 25, 1985.

BACKGROUND

The Uniroyal facility, Opelika, Alabama, produces pneumatic casings for cars and trucks. The chemical process involves the mixing of natural and synthetic rubbers with carbon black, sulphur,and other chemical additives in Banburg mixers.

On March 12, 1985, facility personnel noticed that a spill of oil had occurred inside the plant. Approximately 1000 gallons of skimmed waste oil was inadvertently released from one of the Banburg mixers between March 11 and 12, 1985. The quantity of oil released exceeded the capacity of the oil separator basin and had overflowed into the settling pond. A waste oil cleanup contractor was hired to clean up the settling pond. At the time of this inspection the soil around the edge of the pond was stained (photographs 2 and 4), however, only a slight oily film was observed evident on the settling pond surface.

DISCUSSION OF RESULTS

General

During the investigation, samples were collected from five locations as requested by Mr. Dunning, and were split with the facility representatives (see attached sample receipt form, Appendix A). The sampling locations, including the types of analyses performed for each sample collected, are described in Table 1. . Photographs of the sampling locations are included as Appendix B. A summary of the analytical data for the samples is presented in Table 2 (Settling Pond Discharge) and Table 3 (Soil and Waste Samples). The complete analytical results are included as Appendix C.

Analytical Results

Sample station UT-1 was located at the settling pond overflow weir (Table 1, Photograph 1). The water sample collected from this location contained 10 metals at low concentrations ranging from 38 ug/l of barium to 69 mg/l of sodium (Table 2). Isophorone, detected at 1,800 ug/l (average value), was the only priority pollutant extractable organic compound detected. A total of four non-priority pollutant extractable organic compounds were detected and reported as estimated values and presumptive evidence of presence of the materials (Table 2). The concentrations ranged from 30 ug/l of C9 alkylphenol to 100 ug/l of C8 alkylphenol (3 isomers). Of the seven purgeable organic compounds detected, acetone was reported at an elevated concentration of 1,300 ug/l (Table 2). The concentrations for the remaining purgeable organic compounds detected ranged from 6.8 ug/l of ethyl benzene to 20 ug/l (estimated value) of carbon disulfide. No PCB's or pesticides were detected in water sample UT-1. The temperature and pH of sample UT-1 at the time of sample collection was 20° centigrade and 6.8 (standard units), respectively.

Sample UT-2, which was collected from the oil stained soil/sediment from the east end of the settling pond, was analyzed only for metals. The sample contained fourteen metals ranging in concentration from 7.5 mg/kg of yttrium to 28,000 mg/kg of aluminum. Based upon the concentrations of metals present in the sample, the EP Toxicity limits for the listed metals would not have been exceeded. Therefore, the test was not performed.

Sample UT-3 was collected from the oil separation/skimmer (Photograph 3). The sample was analyzed for metals and for EP Toxicity (metals only). The concentrations for the six metals reported ranged from 34 mg/kg of lead to 4,200 mg/kg of iron (Table 3). Interferences prevented the analysis for mercury. The reported concentrations for the detected metals would not have exceeded the EP Toxicity limits for the listed metals, except for mercury. Therefore, the EP Toxicity test was performed for mercury only. The EP Toxicity analysis for mercury was well below the EP Toxicity maximum concentration of 0.2 mg/l. Mercury was not detected for the EP Toxicity test above a minimum detection limit of 0.0004 mg/l; see the attached EP Toxicity data sheets (Appendix C).

Sample UT-4, which was collected from the skimmed oil storage tank (Photograph 5), contained lead (17 mg/kg) and zinc (1,500 mg/kg) (Table 3). Interferences prevented the analysis for mercury. The EP Toxicity test for mercury was well below the maximum concentration of 0.2 mg/l; mercury was not detected above a minimum detection limit of 0.0004 mg/l (Appendix C). No significant extractable organic compounds were detected in sample UT-4 (Table 3). Four purgeable organic compounds were detected. The concentrations ranged from 20 mg/kg of toluene to 97 mg/kg of o and p-xylene (mixed). The waste oil sample had a heat content of 18,000 BTU.

Sample UT-5 was collected from one of the 22-55 gallon drums of virgin off-spec paint used to protect tire "white-walls" during shipment. Based upon a statement from Mr. Rice, that particular paint lot had a grit material suspended in the paint that would plug the nozzle of the paint spray guns. Therefore, the paint was not to be used. The sample contained eight metals at insignificant concentrations. The concentrations ranged from 0.04 mg/kg of copper to 550 mg/kg of sodium (Table 3). Based upon the concentrations of metals present in the sample, the EP Toxicity limits for the listed metals would not have been exceeded. Therefore, the test was not performed.

METHODOLOGY

All sampling collection, sample handling, and chain-of-custody procedures were conducted in accordance with the Water Surveillance Branch Standard Operating Procedures and Quality Assurance Manual (Draft, August 1980). Laboratory analyses were performed in the US-EPA, Region IV, Analytical Support Branch, in accordance with the Analytical Support Branch Operations and Quality Control Manual (April 1982).

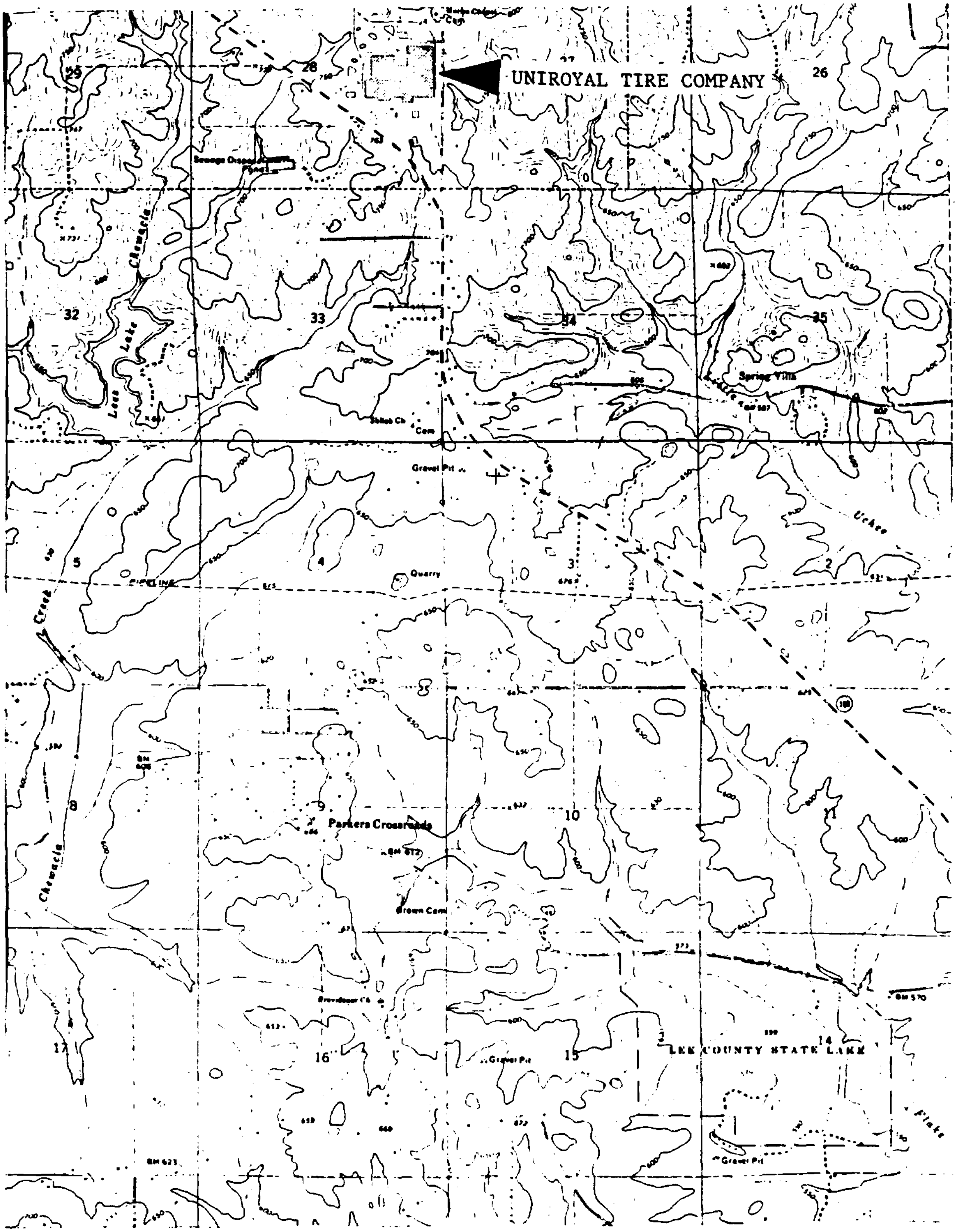


FIGURE 1
UNIROYAL TIRE COMPANY
OPELIKA, ALABAMA

Ref: U.S.G.S. Topographic Map
(7.5 Min.): "Parkers
Crossroads," 1971.

TABLE 1
SAMPLING LOCATIONS
UNIROYAL TIRE COMPANY
OPELIKA, ALABAMA

STATION	DATE	TIME	SAMPLE TYPE	ANALYSES	DESCRIPTION
UT-1	3/28/85	1040	Water	Metals Cyanide Ext. Org.(1) VOA	The sample was collected from the settling pond discharge at the overflow weir (Photograph 1).
UT-2	3/28/85	1120	Soil/ Sediment	Metals	The sample was collected from stained soil/sediment around the east end of the settling pond at the waters edge, and adjacent to the oil separator/skimmer discharge pipe (Photograph 2).
UT-3	3/28/85	1145	Waste Oil	Metals EP Toxicity (2)	The sample was collected from the oil separator located adjacent to and east of the settling pond (Photograph 3).
UT-4	3/28/85	1230	Waste Oil	Metals Ext. Org. (1) VOA Heat Content EP Toxicity (2)	The sample was collected from the skimmed oil storage tank (Photograph 5) located behind the power house. The oil from this tank is used in the facility's boiler.
UT-5	3/28/85	1300	Waste (Paint)	Metals	The sample was collected from one of 22-55 gallon drums of virgin off-spec paint used to protect tire "white-walls" during shipment.

Footnotes:

1. Including pesticides.
2. Metals only.

TABLE 2
ANALYTICAL DATA SUMMARY
SETTLING POND DISCHARGE
UNIROYAL TIRE COMPANY
OPELIKA, ALABAMA

	UT-1 POND OVERFLOW 03/28/85 1040
	UG/L
INORGANIC ELEMENT/COMPOUND	
BARIUM	38
COPPER	65
STRONTIUM	64
ZINC	870
ALUMINUM	890
MANGANESE	45
	MG/L
CALCIUM	28
MAGNESIUM	3.2
IRON	1.5
SODIUM	69
EXTRACTABLE ORGANIC COMPOUNDS	
	UG/L
ISOPHORONE	1800A
TRIMETHYLCYCLOHEXANONE	60JN
BENZOTHIAZOLE	30JN
C8 ALKYLPHENOL (3 ISOMERS)	100JN
C9 ALKYLPHENOL	30JN
PURGEABLE ORGANIC COMPOUNDS	
CHLOROFORM	8.4
ETHYL BENZENE	6.8
M-XYLENE	16
O&P-XYLENE(MIXED)	9.4
ACETONE	1300
CARBON DISULFIDE	20J
METHYL ISOBUTYL KETONE	10J

*****SEE ATTACHED LIST OF FOOTNOTES*****

06/20/85

TABLE 3
ANALYTICAL DATA SUMMARY
SOIL AND WASTE SAMPLES
UNIROYAL TIRE COMPANY
OPELIKA, ALABAMA

	UT-2 SOIL/SED POND 03/28/85 1120	UT-3 OIL SKIMMER 03/28/85 1145	UT-4 OIL TANK 03/28/85 1230	UT-5 OFF-SPEC PAINT 03/28/85 1300
	MG/KG	MG/KG	MG/KG	MG/KG
INORGANIC ELEMENT/COMPOUND				
BARIUM	85	--	--	--
CHROMIUM	40	--	--	0.65
COPPER	240	200	--	0.04
LEAD	50	34	17	--
STRONTIUM	8.5	--	--	--
TITANIUM	810	--	--	--
VANADIUM	36	--	--	--
YTTRIUM	7.5	--	--	--
ZINC	2700	2000	1500	1.0
MERCURY	--	NAI	NAI	--
ALUMINUM	28000	700	--	1.9
MANGANESE	70	--	--	--
CALCIUM	1600	--	--	8.2
MAGNESIUM	2000	400	--	0.76
IRON	23000	4200	--	64
SODIUM	--	--	--	550
EXTRACTABLE ORGANIC COMPOUNDS				
PETROLEUM PRODUCT	--	--	N	--
4 UNIDENTIFIED COMPOUNDS	--	--	10000J	--
PURGEABLE ORGANIC COMPOUNDS				
TOLUENE	NA	NA	20	NA
ETHYL BENZENE	NA	NA	24	NA
M-XYLENE	NA	NA	68	NA
O&P-XYLENE(MIXED)	NA	NA	97	NA
CONVENTIONAL PARAMETERS				
	BTU/#	BTU/#	BTU/#	BTU/#
HEAT CONTENT(HEAT OF COMBUSTION)	NA	NA	18000	NA

*****SEE ATTACHED LIST OF FOOTNOTES*****

FOOTNOTES FOR DATA SUMMARY TABLES

--	The parameter was analyzed for but not detected. Detection limits are specified on the analytical data sheets.
NA	Analysis was not conducted for this parameter.
NAI	Analysis for this parameter was attempted but could not be completed because of interference.
J	Estimated value.
K	Actual value is known to be less than the value given.
L	Actual value is known to be greater than the value given.
N	Presumptive evidence of the presence of the material.
A	Average value based on two or more observations.
1	When no value is reported, see chlordane constituents.
2	Constituent or metabolite of technical chlordane.

Remark - See analytical data sheet for additional information.

APPENDIX A

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4

RECEIPT FOR SAMPLES

ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

PROJ. NO.	PROJECT NAME	Name of Facility/Site
85-213	[illegible] Corp.	Uniroyal Tire Corp.

SAMPLERS: (Signature) [illegible] Kopotic

Facility/Site Location [illegible]

Split Samples Offered ( ) Accepted ( ) Declined

STA NO	DATE	TIME	COMP	GRAB	SPLIT SAMPLES	TAG NUMBERS	STATION DESCRIPTION	NO OF CONTAINERS	REMARKS
[illegible]	[illegible]	[illegible]				[illegible]	[illegible] Pond	[illegible]	
[illegible]	[illegible]					[illegible]	[illegible]	1	
							[illegible]		
[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	1	
[illegible]	[illegible]	[illegible]				[illegible]	[illegible] – waste oil tank	[illegible]	
[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	1	

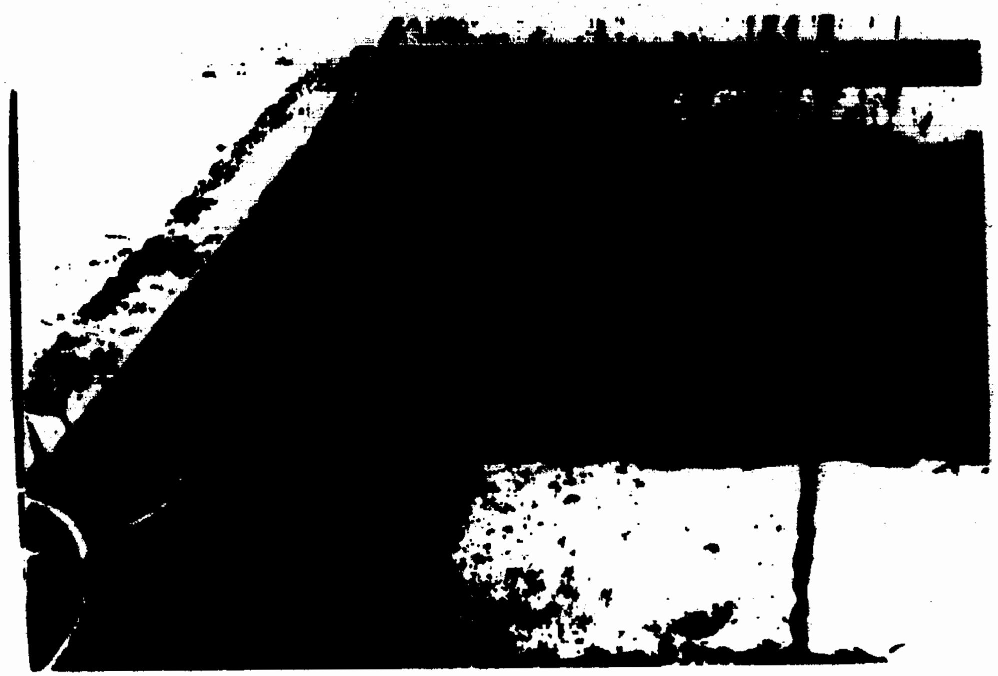
Transferred by: (Signature)	Received by (Signature)	Telephone
[illegible]	[illegible]	[illegible]

Date	Time	Title	Date	Time
[illegible]	[illegible]	[illegible]	[illegible]	

APPENDIX B

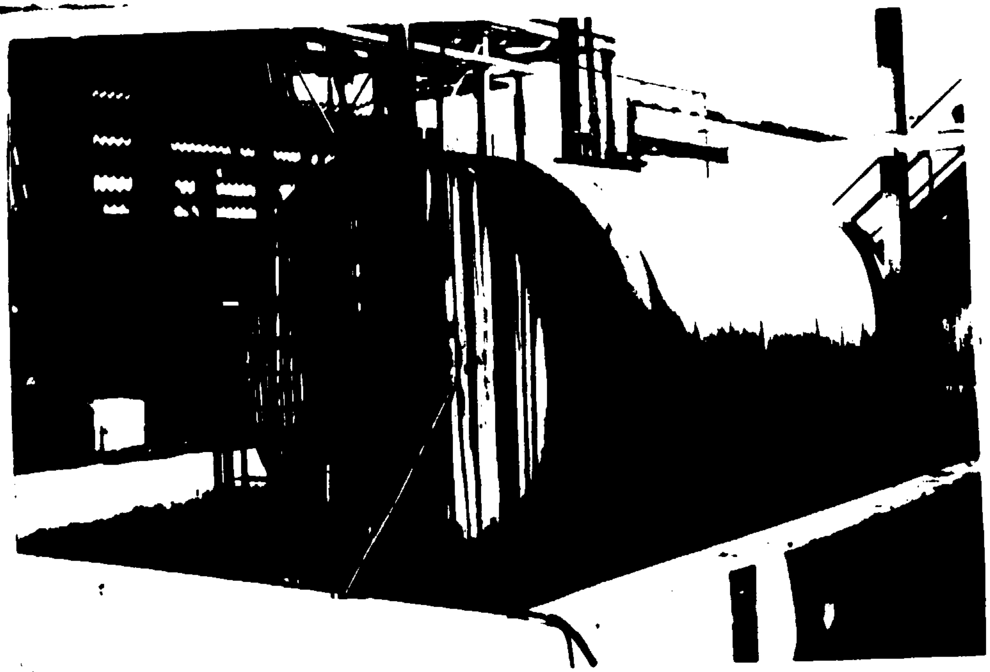
Photograph: 1
Date: 3/28/85
Time: 1036
Description: Sample station UT-1.
The sample was collected from the settling pond discharge at the overflow weir.

Photograph: 2
Date: 3/28/85
Time: 1128
Description: Sample station UT-2.
The soil/sediment sample was collected from the east end of the settling pond at the oil separator/skimmer discharge.



Photograph: 3
Date: 3/28/85
Time: 1141
Description: Sample Station UT-3. Oil separator/skimmer located adjacent to and east of the settling pond.

Photograph: 4
Date: 3/28/85
Time: 1151
Description: Photograph taken from facility facing west toward the settling pond.



Photograph: 5
Date: 3/28/85
Time: 1246
Description: Sample station UT-4; skimmed oil storage tank.

Photograph: 6
Date: 3/28/85
Time: 1257
Description: Factory code number on side of drum which contained off-spec paint.

Photograph: 7
Date: 3/28/85
Time: 1258
Description: Sample station UT-5.

APPENDIX C

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

06/20/85

METALS
DATA REPORTING SHEET
WATER

SAMPLE NO.: 85C7266   SAMPLE TYPE: PONDWA

PROJECT NO.: 85-213   PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA   STATE: AL

STATION I.D.: UT-1 DISCHARGE FROM SETTLING POND
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1040
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: M GLENN   RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE/TIME 03/27/85 0915   REC'D BY: D COLQUITT
SEALED: YES

CHEMIST: MAW
ANALYTICAL METHOD:

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	ELEMENT
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
38	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
20U	UG/L	COBALT
10U	UG/L	CHROMIUM
65	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
30U	UG/L	ANTIMONY
40U	UG/L	SELENIUM
100U	UG/L	TIN
64	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
10U	UG/L	TITANIUM
NA	UG/L	THALLIUM
10U	UG/L	VANADIUM
10U	UG/L	YTTRIUM
870	UG/L	ZINC
NA	UG/L	ZIRCONIUM
0.2U	UG/L	MERCURY
890	UG/L	ALUMINUM
45	UG/L	MANGANESE
28	MG/L	CALCIUM
3.2	MG/L	MAGNESIUM
1.5	MG/L	IRON
69	MG/L	SODIUM
NA	MG/L	POTASSIUM

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLB   SAMPLE DATA VERIFIED BY: MAW

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES
*J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

06/19/85

METALS
DATA REPORTING SHEET
SEDIMENT/SOIL/SLUDGE(DRY WT)

SAMPLE NO.: 85C7267 SAMPLE TYPE: SOIL

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-2 STAINED SOIL AROUND BASIN ON E SIDE OF POND
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1120
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: M GLENN RECEIVED FROM: J KOPOTIC
SAMPLE RECID: DATE/TIME 03/27/85 0915 RECID BY: D COLQUITT
SEALED: YES

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLR SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	ELEMENT
10U	MG/KG	SILVER
30U	MG/KG	ARSENIC
NA	MG/KG	BORON
85	MG/KG	BARIUM
10U	MG/KG	BERYLLIUM
10U	MG/KG	CADMIUM
NA	MG/KG	COBALT
40	MG/KG	CHROMIUM
240	MG/KG	COPPER
20U	MG/KG	MOLYBDENUM
20U	MG/KG	NICKEL
50	MG/KG	LEAD
30U	MG/KG	ANTIMONY
40U	MG/KG	SELENIUM
100U	MG/KG	TIN
8.5	MG/KG	STRONTIUM
40U	MG/KG	TELLURIUM
810	MG/KG	TITANIUM
NA	MG/KG	THALLIUM
36	MG/KG	VANADIUM
7.5	MG/KG	YTTRIUM
2700	MG/KG	ZINC
NA	MG/KG	ZIRCONIUM
0.050U	MG/KG	MERCURY
28000	MG/KG	ALUMINUM
70	MG/KG	MANGANESE
1600	MG/KG	CALCIUM
2000	MG/KG	MAGNESIUM
23000	MG/KG	IRON
1000U	MG/KG	SODIUM
NA	MG/KG	POTASSIUM
47	%	MOISTURE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

06/19/85

METALS
DATA REPORTING SHEET
WASTE

SAMPLE NO.: 85C7268   SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213   PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA   STATE: AL

STATION I.D.: UT-3 WASTE OIL FROM SEPARATER
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1145
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: M GLENN   RECEIVED FROM: J KOPOTIC
SAMPLE RECIP: DATE/TIME 03/27/85 0915   RECIP BY: D COLQUITT
SEALED: YES

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLH   SAMPLE DATA VERIFIED BY: MAW

REMARKS
DATA REPORTED ON WET WEIGHT BASIS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	ELEMENT
200U	MG/KG	SILVER
600U	MG/KG	ARSENIC
NA	MG/KG	BORON
400U	MG/KG	BARIUM
200U	MG/KG	BERYLLIUM
200U	MG/KG	CADMIUM
400U	MG/KG	COBALT
200U	MG/KG	CHROMIUM
200	MG/KG	COPPER
400U	MG/KG	MOLYBDENUM
400U	MG/KG	NICKEL
34	MG/KG	LEAD
600U	MG/KG	ANTIMONY
800U	MG/KG	SELENIUM
2000U	MG/KG	TIN
200U	MG/KG	STRONTIUM
800U	MG/KG	TELLURIUM
200U	MG/KG	TITANIUM
NA	MG/KG	THALLIUM
200U	MG/KG	VANADIUM
200U	MG/KG	YTTRIUM
2000	MG/KG	ZINC
NA	MG/KG	ZIRCONIUM
NAI	MG/KG	MERCURY
700	MG/KG	ALUMINUM
1000	MG/KG	MANGANESE
20000	MG/KG	CALCIUM
400	MG/KG	MAGNESIUM
4200	MG/KG	IRON
20000U	MG/KG	SODIUM
NA	MG/KG	POTASSIUM
NA	%	MOISTURE

****

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES
*J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

06/19/85

METALS
DATA REPORTING SHEET
WASTE

SAMPLE NO.: 85C7269 SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-4 SKIMMED OIL WASTE OIL TANK
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/29/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: J GLENN RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLH SAMPLE DATA VERIFIED BY: MAW

REMARKS
DATA REPORTED ON WET WEIGHT BASIS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	ELEMENT
200U	MG/KG	SILVER
600U	MG/KG	ARSENIC
NA	MG/KG	BORON
400U	MG/KG	BARIUM
200U	MG/KG	BERYLLIUM
200U	MG/KG	CADMIUM
400U	MG/KG	COBALT
200U	MG/KG	CHROMIUM
200U	MG/KG	COPPER
400U	MG/KG	MOLYBDENUM
400U	MG/KG	NICKEL
17	MG/KG	LEAD
600U	MG/KG	ANTIMONY
800U	MG/KG	SELENIUM
2000U	MG/KG	TIN
200U	MG/KG	STRONTIUM
800U	MG/KG	TELLURIUM
200U	MG/KG	TITANIUM
NA	MG/KG	THALLIUM
200U	MG/KG	VANADIUM
200U	MG/KG	YTTRIUM
1500	MG/KG	ZINC
NA	MG/KG	ZIRCONIUM
NAI	MG/KG	MERCURY
2000U	MG/KG	ALUMINUM
1000U	MG/KG	MANGANESE
20000U	MG/KG	CALCIUM
2000U	MG/KG	MAGNESIUM
2000U	MG/KG	IRON
20000U	MG/KG	SODIUM
NA	MG/KG	POTASSIUM
NA	%	MOISTURE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

06/19/85

METALS
DATA REPORTING SHEET
SEDIMENT/SOIL/SLUDGE(DRY WT)

SAMPLE NO.: 85C7270   SAMPLE TYPE: WASTE

PROJECT NO.: 85-213   PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA   STATE: AL

STATION I.D.: WT-5 OFF SPEC PAINT
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1300
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: A GLENN   RECEIVED FROM: J KOPOTIC
SAMPLE RECID: DATE/TIME 03/27/85 0915   RECID BY: D COLQUITT
SEALED: YES

CHEMIST: MAM
ANALYTICAL METHOD:

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	ELEMENT
0.040	MG/KG	SILVER
3.70	MG/KG	ARSENIC
NA	MG/KG	BORON
0.080	MG/KG	BARIUM
0.040	MG/KG	BERYLLIUM
0.040	MG/KG	CADMIUM
0.080	MG/KG	COBALT
0.65	MG/KG	CHROMIUM
0.04	MG/KG	COPPER
0.080	MG/KG	MOLYBDENUM
0.080	MG/KG	NICKEL
0.110	MG/KG	LEAD
0.110	MG/KG	ANTIMONY
1.90	MG/KG	SELENIUM
0.40	MG/KG	TIN
0.080	MG/KG	STRONTIUM
0.150	MG/KG	TELLURIUM
0.040	MG/KG	TITANIUM
NA	MG/KG	THALLIUM
0.040	MG/KG	VANADIUM
0.040	MG/KG	YTTRIUM
1.0	MG/KG	ZINC
NA	MG/KG	ZIRCONIUM
0.050	MG/KG	MERCURY
1.9	MG/KG	ALUMINUM
0.190	MG/KG	MANGANESE
8.2	MG/KG	CALCIUM
0.76	MG/KG	MAGNESIUM
64	MG/KG	IRON
550	MG/KG	SODIUM
NA	MG/KG	POTASSIUM
NA	%	MOISTURE

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PEH   SAMPLE DATA VERIFIED BY: MAW

REMARKS
DATA REPORTED ON WET WEIGHT BASIS

****

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES
*J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

06/20/85

EP TOXICITY
DATA REPORTING SHEET
WASTE

SAMPLE NO.: 85C7268   SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213   PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA   STATE: AL

STATION I.D.: 01-3 WASTE OIL FROM SEPARATER
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1145
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: D GLENN   RECEIVED FROM: J KOPOTIC
SAMPLE RECD: DATE/TIME 03/27/85 0315   RECD BY: D COLQUITT
SEALED: YES
CHEMIST: MAL
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLH   SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER
NA	MG/L	ARSENIC
NA	MG/L	BARIUM
NA	MG/L	CADMIUM
NA	MG/L	CHROMIUM
NA	MG/L	LEAD
0.00040	MG/L	MERCURY
NA	MG/L	SELENIUM
NA	MG/L	SILVER
NA	MG/L	NICKEL
NA	MG/L	ENDRIN
NA	MG/L	LINDANE
NA	MG/L	METHOXYCHLOR
NA	MG/L	TOXAPHENE
NA	MG/L	2,4-D
NA	MG/L	2,4,5-TP (SILVEX)

****

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES
*J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

06/20/85

EP TOXICITY
DATA REPORTING SHEET
WASTE

SAMPLE NO.: 85C7269   SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213   PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA   STATE: AL

STATION I.D.: UT-4 SKIMMED OIL WASTE OIL TANK
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: [illegible] GLENN   RECEIVED FROM: J KOPOTIC
SAMPLE RECD: DATE/TIME 03/27/85 0915   RECD BY: D COLQUITT
SEALED: YES
CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: [illegible]   SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER
NA	MG/L	ARSENIC
NA	MG/L	BARIUM
NA	MG/L	CADMIUM
NA	MG/L	CHROMIUM
NA	MG/L	LEAD
0.00040	MG/L	MERCURY
NA	MG/L	SELENIUM
NA	MG/L	SILVER
NA	MG/L	NICKEL
NA	MG/L	ENDRIN
NA	MG/L	LINDANE
NA	MG/L	METHOXYCHLOR
NA	MG/L	TOXAPHENE
NA	MG/L	2,4-D
NA	MG/L	2,4,5-TP (SILVEX)

****

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES
*J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

04/23/85 PESTICIDES/PCB'S AND OTHER CHLORINATED COMPOUNDS
WATER

SAMPLE NO.: 85C7266 SAMPLE TYPE: PONDWA

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-1 DISCHARGE FROM SETTLING POND
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/26/85 1040
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: M GLENN RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST: CDH
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLB DATA VERIFIED BY: HLR

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
0.14U	UG/L	ALDRIN
0.14U	UG/L	HEPTACHLOR
0.14U	UG/L	HEPTACHLOR EPOXIDE
0.14U	UG/L	ALPHA-BHC
0.14U	UG/L	BETA-BHC
0.14U	UG/L	GAMMA-BHC (LINDANE)
0.14U	UG/L	DELTA-BHC
0.14U	UG/L	ENDOSULFAN I (ALPHA)
0.14U	UG/L	DIELDRIN
0.24U	UG/L	4,4'-DDT (P,P'-DDT)
0.24U	UG/L	4,4'-DDE (P,P'-DDE)
0.24U	UG/L	4,4'-DDD (P,P'-DDD)
0.32U	UG/L	ENDRIN
0.14U	UG/L	ENDOSULFAN II (BETA)
0.31U	UG/L	ENDOSULFAN SULFATE
0.38U	UG/L	CHLORDANE (TECH. MIXTURE) /1
0.73U	UG/L	PCB-1242 (AROCLOR 1242)
1.7U	UG/L	PCB-1254 (AROCLOR 1254)
0.73U	UG/L	PCB-1221 (AROCLOR 1221)
0.73U	UG/L	PCB-1232 (AROCLOR 1232)
0.73U	UG/L	PCB-1248 (AROCLOR 1248)
1.7U	UG/L	PCB-1260 (AROCLOR 1260)
0.73U	UG/L	PCB-1016 (AROCLOR 1016)
3.1U	UG/L	TOXAPHENE
0.31U	UG/L	ENDRIN ALDEHYDE
NA	UG/L	2,3,7,8 TCDD(DIOXIN)
--	UG/L	CHLORDENE /2
--	UG/L	ALPHA-CHLORDENE /2
--	UG/L	GAMMA-CHLORDENE /2
--	UG/L	1-HYDROXYCHLORDENE /2
--	UG/L	GAMMA-CHLORDANE /2
--	UG/L	TRANS-NONACHLOR /2
--	UG/L	ALPHA-CHLORDANE /2
--	UG/L	CIS-NONACHLOR /2
0.60U	UG/L	METHOXYCHLOR
NA	UG/L	ENDRIN KETONE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
... TO BE LESS THAN VALUE GIVEN

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

05/15/85 PESTICIDES/PCB'S AND OTHER CHLORINATED COMPOUNDS
WASTE

SAMPLE NO.: 85C7269   SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213   PROGRAM ELEMENT: RCRA
SOURCE: [illegible] TIRE CO
CITY: [illegible]   STATE: AL

STATION I.D.: UF-4 SKIMMED OIL WASTE OIL TANK
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: J GLENN   RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE/TIME 03/27/85 0915   REC'D BY: P COLQUITT
SEALED: YES

CHEMIST: JAV
ANALYTICAL METHOD:

REMARKS:
REMARKS:

SAMPLE LOG VERIFIED BY: DLB   DATA VERIFIED BY: JWT

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
0.35U	MG/KG	ALDRIN
0.35U	MG/KG	HEPTACHLOR
0.35U	MG/KG	HEPTACHLOR EPOXIDE
0.27U	MG/KG	ALPHA-BHC
0.35U	MG/KG	BETA-BHC
0.35U	MG/KG	GAMMA-BHC (LINDANE)
0.35U	MG/KG	DELTA-BHC
1.0U	MG/KG	ENDOSULFAN I (ALPHA)
1.0U	MG/KG	DIELDRIN
3.2U	MG/KG	4,4'-DDT (P,P'-DDT)
1.0U	MG/KG	4,4'-DDE (P,P'-DDE)
3.2U	MG/KG	4,4'-DDD (P,P'-DDD)
3.2U	MG/KG	ENDRIN
3.2U	MG/KG	ENDOSULFAN II (BETA)
34U	MG/KG	ENDOSULFAN SULFATE
12U	MG/KG	CHLORDANE (TECH. MIXTURE) /1
9.1U	MG/KG	PCB-1242 (AROCLOR 1242)
25U	MG/KG	PCB-1254 (AROCLOR 1254)
9.1U	MG/KG	PCB-1221 (AROCLOR 1221)
9.1U	MG/KG	PCB-1232 (AROCLOR 1232)
9.1U	MG/KG	PCB-1248 (AROCLOR 1248)
25U	MG/KG	PCB-1260 (AROCLOR 1260)
9.1U	MG/KG	PCB-1016 (AROCLOR 1016)
110U	MG/KG	TOXAPHENE
2.1U	MG/KG	ENDRIN ALDEHYDE
NA	MG/KG	2,3,7,8 TCDD(DIOXIN)
--	MG/KG	CHLORDENE /2
--	MG/KG	ALPHA-CHLORDENE /2
--	MG/KG	GAMMA-CHLORDENE /2
--	MG/KG	1-HYDROXYCHLORDENE /2
--	MG/KG	GAMMA-CHLORDANE /2
--	MG/KG	TRANS-NONACHLOR /2
--	MG/KG	ALPHA-CHLORDANE /2
--	MG/KG	CIS-NONACHLOR /2
6.9U	MG/KG	METHOXYCHLOR
2.1U	MG/KG	ENDRIN KETONE
NA	%	MOISTURE

****

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES
*J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.
1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.
2. CONSTITUENTS OR METABOLITES OF TECHNICAL CHLORDANE.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

04/22/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 85C7266 SAMPLE TYPE: PONDWA

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-1 DISCHARGE FROM SETTLING POND
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/26/85 1040
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: H GLENN RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLB DATA VERIFIED BY: DGR

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
13U	UG/L	1,3-DICHLOROBENZENE
13U	UG/L	1,4-DICHLOROBENZENE
13U	UG/L	1,2-DICHLOROBENZENE
13U	UG/L	BIS(2-CHLOROETHYL) ETHER
13U	UG/L	HEXACHLOROETHANE
13U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
13U	UG/L	N-NITROSODI-N-PROPYLAMINE
13U	UG/L	NITROBENZENE
13U	UG/L	HEXACHLOROBUTADIENE
13U	UG/L	1,2,4-TRICHLOROBENZENE
13U	UG/L	NAPHTHALENE
13U	UG/L	BIS(2-CHLOROETHOXY) METHANE
1800A	UG/L	ISOPHORONE
13U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
13U	UG/L	2-CHLORONAPHTHALENE
13U	UG/L	ACENAPHTHYLENE
13U	UG/L	ACENAPHTHENE
13U	UG/L	DIMETHYL PHTHALATE
13U	UG/L	2,4-DINITROTOLUENE
13U	UG/L	2,6-DINITROTOLUENE
13U	UG/L	4-CHLOROPHENYL PHENYL ETHER
13U	UG/L	FLUORENE
13U	UG/L	DIETHYL PHTHALATE
13U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
13U	UG/L	HEXACHLOROBENZENE (HCB)
13U	UG/L	4-BROMOPHENYL PHENYL ETHER
13U	UG/L	PHENANTHRENE
13U	UG/L	ANTHRACENE
13U	UG/L	DI-N-BUTYLPHTHALATE
13U	UG/L	FLUORANTHENE
13U	UG/L	PYRENE
13U	UG/L	BENZYL BUTYL PHTHALATE
13U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
13U	UG/L	BENZO(A)ANTHRACENE
13U	UG/L	CHRYSENE
13U	UG/L	3,3'-DICHLOROBENZIDINE
13U	UG/L	DI-N-OCTYLPHTHALATE
13U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
13U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
13U	UG/L	BENZO-A-PYRENE
13U	UG/L	INDENO (1,2,3-CD) PYRENE
13U	UG/L	DIBENZO(A,H)ANTHRACENE
13U	UG/L	BENZO(GHI)PERYLENE
13U	UG/L	2-CHLOROPHENOL
13U	UG/L	2-NITROPHENOL
13U	UG/L	PHENOL
13U	UG/L	2,4-DIMETHYLPHENOL
13U	UG/L	2,4-DICHLOROPHENOL
13U	UG/L	2,4,6-TRICHLOROPHENOL
25U	UG/L	4-CHLORO-3-METHYLPHENOL
25U	UG/L	2,4-DINITROPHENOL
[illegible]	[illegible]	2-METHYL-4,6-DINITROPHENOL

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED [illegible] LIMIT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

04/22/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 85C7266 SAMPLE TYPE: PONDWA

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-1 DISCHARGE FROM SETTLING POND
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1040
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: M GLENN RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE,/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: PLB DATA VERIFIED BY: DGR

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
[illegible] WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
25U	BENZOIC ACID
13U	2-METHYLPHENOL
13U	4-METHYLPHENOL
13U	2,4,5-TRICHLOROPHENOL
13U	ANILINE
13U	BENZYL ALCOHOL
25U	4-CHLOROANILINE
13U	DIBENZOFURAN
13U	2-METHYL NAPHTHALENE
13U	2-NITROANILINE
13U	3-NITROANILINE
13U	4-NITROANILINE
60JN	TRIMETHYLCYCLOHEXANONE
30JN	BENZOTHIAZOLE
100JN	C8 ALKYLPHENOL (3 ISOMERS)
30JN	C9 ALKYLPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

05/01/85 EXTRACTABLE ORGANIC ANALYSIS
BASIC

SAMPLE NO.: 4507269 SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213 [illegible]: RCRA
SOURCE: [illegible]
CITY: [illegible] STATE: FL

STATION NO.: [illegible] WASTE OIL TANK
STATION [illegible]:

SAMPLE COLLECTION: START DATE/TIME 03/21/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: [illegible] RECEIVED FROM: J. KOPOTIC
SAMPLE RECD: DATE/TIME 03/27/85 0915 RECD BY: D COMBOLIST
SEAL: [illegible]

CHEMIST: [illegible]
ANALYTICAL [illegible]:

RE[illegible]:
RE[illegible]:

SAMPLE [illegible] BY: [illegible] DATA VERIFIED BY: DGR

*** [illegible] ***
DAT[illegible] [illegible]

****

*** REMARKS ***
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/KG	N-NITROSODIMETHYLAMINE
NA	UG/KG	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/KG	BENZIDINE
11000UJ	UG/KG	1,3-DICHLOROBENZENE
11000UJ	UG/KG	1,4-DICHLOROBENZENE
11000UJ	UG/KG	1,2-DICHLOROBENZENE
11000UJ	UG/KG	BIS(2-CHLOROETHYL) ETHER
11000UJ	UG/KG	HEXACHLOROETHANE
11000UJ	UG/KG	BIS(2-CHLOROISOPROPYL) ETHER
11000UJ	UG/KG	N-NITROSODI-N-PROPYLAMINE
11000UJ	UG/KG	NITROBENZENE
11000UJ	UG/KG	HEXACHLOROBUTADIENE
11000UJ	UG/KG	1,2,4-TRICHLOROBENZENE
11000UJ	UG/KG	NAPHTHALENE
11000UJ	UG/KG	BIS(2-CHLOROETHOXY) METHANE
11000UJ	UG/KG	ISOPHORONE
11000UJ	UG/KG	HEXACHLOROCYCLOPENTADIENE (HCCP)
11000UJ	UG/KG	2-CHLORONAPHTHALENE
11000UJ	UG/KG	ACENAPHTHYLENE
11000UJ	UG/KG	ACENAPHTHENE
11000UJ	UG/KG	DIMETHYL PHTHALATE
11000UJ	UG/KG	2,4-DINITROTOLUENE
11000UJ	UG/KG	2,6-DINITROTOLUENE
11000UJ	UG/KG	4-CHLOROPHENYL PHENYL ETHER
11000UJ	UG/KG	FLUORENE
11000UJ	UG/KG	DIETHYL PHTHALATE
11000UJ	UG/KG	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
11000UJ	UG/KG	HEXACHLOROBENZENE (HCB)
11000UJ	UG/KG	4-BROMOPHENYL PHENYL ETHER
11000UJ	UG/KG	PHENANTHRENE
11000UJ	UG/KG	ANTHRACENE
11000UJ	UG/KG	DI-N-BUTYLPHTHALATE
11000UJ	UG/KG	FLUORANTHENE
11000UJ	UG/KG	PYRENE
11000UJ	UG/KG	BENZYL BUTYL PHTHALATE
11000UJ	UG/KG	BIS(2-ETHYLHEXYL) PHTHALATE
11000UJ	UG/KG	BENZO(A)ANTHRACENE
11000UJ	UG/KG	CHRYSENE
11000UJ	UG/KG	3,3'-DICHLOROBENZIDINE
11000UJ	UG/KG	DI-N-OCTYLPHTHALATE
11000UJ	UG/KG	BENZO(B AND/OR K)FLUORANTHENE
11000UJ	UG/KG	BENZO(B AND/OR K)FLUORANTHENE
11000UJ	UG/KG	BENZO-A-PYRENE
11000UJ	UG/KG	INDENO (1,2,3-CD) PYRENE
11000UJ	UG/KG	DIBENZO(A,H)ANTHRACENE
11000UJ	UG/KG	BENZO(GHI)PERYLENE
11000UJ	UG/KG	2-CHLOROPHENOL
11000UJ	UG/KG	2-NITROPHENOL
11000UJ	UG/KG	PHENOL
11000UJ	UG/KG	2,4-DIMETHYLPHENOL
11000UJ	UG/KG	2,4-DICHLOROPHENOL
11000UJ	UG/KG	2,4,6-TRICHLOROPHENOL
22000UJ	UG/KG	4-CHLORO-3-METHYLPHENOL
22000UJ	UG/KG	2,4-DINITROPHENOL
22000UJ	UG/KG	2-METHYL-4,6-DINITROPHENOL
22000UJ	UG/KG	PENTACHLOROPHENOL
22000UJ	UG/KG	4-NITROPHENOL
--	%	MOISTURE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

05/01/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WASTE

SAMPLE NO.: 85C7269 SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION ID.: 1-1 [illegible] OIL WASTE OIL TANK
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: [illegible] RECEIVED FROM: J KOPOTIC
SAMPLE RECEIPT DATE/TIME 03/29/85 0915 RECD BY: D COLQUITT
SEALED: YES

CHEMIST:
ANALYTICAL [illegible] :

REMARKS:
REMARKS:

SAMPLE LOG VERIFIED BY: [illegible] DATA VERIFIED BY: DGR

****REMARKS****

*****ANALYTICAL RESULTS*****

RESULTS IN UG/KG	COMPOUND NAME
22000UJ	BENZOIC ACID
11000UJ	2-METHYLPHENOL
11000UJ	4-METHYLPHENOL
11000UJ	2,4,5-TRICHLOROPHENOL
11000UJ	ANILINE
11000UJ	BENZYL ALCOHOL
22000UJ	4-CHLOROANILINE
11000UJ	DIBENZOFURAN
11000UJ	2-METHYLNAPHTHALENE
11000UJ	2-NITROANILINE
11000UJ	3-NITROANILINE
11000UJ	4-NITROANILINE
N	PETROLEUM PRODUCT
10000J	4 UNIDENTIFIED COMPOUNDS

****

REMARKS
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

05/08/85

PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 85C7266 SAMPLE TYPE: POUDWA

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION ID.: UT-1 DISCHARGE FROM SETTLING POND
STORET STATION [illegible]

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1040
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: [illegible] GLENN RECEIVED FROM: J KOPOTIC
SAMPLE RECD: DATE/TIME 03/27/85 0915 RECD BY: D COLQUITT
SEALED: YES

CHEMIST: [illegible]
ANALYTICAL METHOD:

REMARKS:
REMARKS:

SAMPLE LOG VERIFIED BY: PLB SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
5U	UG/L	CHLOROMETHANE
5U	UG/L	BROMOMETHANE
5U	UG/L	VINYL CHLORIDE
5U	UG/L	CHLOROETHANE
5U	UG/L	METHYLENE CHLORIDE
5U	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	UG/L	1,1-DICHLOROETHANE
5U	UG/L	TRANS-1,2-DICHLOROETHENE
8.4	UG/L	CHLOROFORM
5U	UG/L	1,2-DICHLOROETHANE
5U	UG/L	1,1,1-TRICHLOROETHANE
5U	UG/L	CARBON TETRACHLORIDE
5U	UG/L	BROMODICHLOROMETHANE
5U	UG/L	1,2-DICHLOROPROPANE
5U	UG/L	TRANS-1,3-DICHLOROPROPENE
5U	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
5U	UG/L	BENZENE
5U	UG/L	DIBROMOCHLOROMETHANE
5U	UG/L	1,1,2-TRICHLOROETHANE
5U	UG/L	CIS-1,3-DICHLOROPROPENE
5U	UG/L	2-CHLOROETHYLVINYL ETHER
5U	UG/L	BROMOFORM
5U	UG/L	1,1,2,2-TETRACHLOROETHANE
5U	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	UG/L	TOLUENE
5U	UG/L	CHLOROBENZENE
6.8	UG/L	ETHYL BENZENE
16	UG/L	M-XYLENE
9.4	UG/L	O&P-XYLENE(MIXED)

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

05/08/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 85C7266 SAMPLE TYPE: PONDWA

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION ID.: UT-1 DISCHARGE FROM SETTLING POND
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1040
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: M GLENN RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE,/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: DEH DATA VERIFIED BY: MCD

REMARKS

****

FOOTNOTES
*A=AVERAGE VALUE *NA=NOT ANALYZED *NAI=INTERFERENCES
*J=ESTIMATED VALUE *N=PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K=ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L=ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U=MATERIAL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
1300	ACETONE
100U	METHYL ETHYL KETONE
20J	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
10J	METHYL ISOBUTYL KETONE
20U	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

05/08/85 PURGEABLE ORGANICS ANALYSIS
WASTE

SAMPLE NO.: 85C7269 SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-1 SKIMMED OIL WASTE OIL TANK
STORET STATION NO:

SAMPLE COLLECTION : START DATE/TIME 03/26/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: J CLE [illegible] RECEIVED FROM: J KOPOTIC
SAMPLE RECEIPT DATE/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST: FA
ANALYTICAL METHOD:

REMARKS:
REMARKS:

SAMPLE LOG VERIFIED BY: DEB SAMPLE DATA VERIFIED BY: MCD

REMARKS
DATA REPORTED ON WET WEIGHT BASIS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	MG/KG	ACROLEIN
NA	MG/KG	ACRYLONITRILE
190	MG/KG	CHLOROMETHANE
190	MG/KG	BROMOMETHANE
190	MG/KG	VINYL CHLORIDE
190	MG/KG	CHLOROETHANE
190	MG/KG	METHYLENE CHLORIDE
190	MG/KG	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
190	MG/KG	1,1-DICHLOROETHANE
190	MG/KG	TRANS-1,2-DICHLOROETHENE
190	MG/KG	CHLOROFORM
190	MG/KG	1,2-DICHLOROETHANE
190	MG/KG	1,1,1-TRICHLOROETHANE
190	MG/KG	CARBON TETRACHLORIDE
190	MG/KG	BROMODICHLOROMETHANE
190	MG/KG	1,2-DICHLOROPROPANE
190	MG/KG	TRANS-1,3-DICHLOROPROPENE
190	MG/KG	TRICHLOROETHENE(TRICHLOROETHYLENE)
190	MG/KG	BENZENE
190	MG/KG	DIBROMOCHLOROMETHANE
190	MG/KG	1,1,2-TRICHLOROETHANE
190	MG/KG	CIS-1,3-DICHLOROPROPENE
190	MG/KG	2-CHLOROETHYLVINYL ETHER
190	MG/KG	BROMOFORM
190	MG/KG	1,1,2,2-TETRACHLOROETHANE
190	MG/KG	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
20	MG/KG	TOLUENE
190	MG/KG	CHLOROBENZENE
21	MG/KG	ETHYL BENZENE
68	MG/KG	M-XYLENE
97	MG/KG	O&P-XYLENE(MIXED)
--	%	MOISTURE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

05/08/85 PURGEABLE ORGANICS ANALYSIS, MISC
WASTE

SAMPLE NO.: 85C7269 SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-4 SKIMMER OIL WASTE OIL TANK
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: [illegible] RECEIVED FROM: J KOPOTIC
SAMPLE RECEIPT DATE/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST:
ANALYTICAL METHOD:

REMARKS:
REMARKS:

SAMPLE LOG VERIFIED BY: [illegible] DATA VERIFIED BY: MCD

REMARKS
DATA REPORTED ON WET WEIGHT BASIS

*****ANALYTICAL RESULTS*****

RESULTS IN: MG/KG	COMPOUND NAME
3800	ACETONE
3800	METHYL ETHYL KETONE
760U	CARBON DISULFIDE
760U	METHYL BUTYL KETONE
760U	METHYL ISOBUTYL KETONE
760U	STYRENE
760U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

04/24/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 85C7266 SAMPLE TYPE: POND-A

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: [illegible] CO
CITY: OPELIKA STATE: AL

STATION I.D.: OF-1 DISCHARGE FROM SETTLING POND
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1040
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: [illegible] RECEIVED FROM: J KOPOTIC
SAMPLE RECEIPT: DATE/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST: [illegible] CHEMIST:
ANALYTICAL [illegible]:

REMARKS:
REMARKS:

SAMPLE LOG VERIFIED BY: PLB DATA VERIFIED BY: RLO

****REMARKS****

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
0.0020	MG/L	CYANIDE	00720

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

04/23/85 SPECIFIED ANALYSIS
WASTE

SAMPLE NO.: 85C7269 SAMPLE TYPE: WASTE OIL

PROJECT NO.: 85-213 PROGRAM ELEMENT: RCRA
SOURCE: UNIROYAL TIRE CO
CITY: OPELIKA STATE: AL

STATION I.D.: UT-4 SKIMMED OIL WASTE OIL TANK
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 03/28/85 1230
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: M GLENN RECEIVED FROM: J KOPOTIC
SAMPLE REC'D: DATE/TIME 03/27/85 0915 REC'D BY: D COLQUITT
SEALED: YES

CHEMIST: RLO CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: RLB DATA VERIFIED BY: RLO

REMARKS
HEAT CONTENT NOT CORRECTED FOR SULFUR

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
18000	BTU/#	HEAT CONTENT(HEAT OF COMBUSTION)	

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN

INVESTIGATION OF UNI
WASTEWATER DISCHARG
Opelika, Alabama

INVESTIGATORS

Messrs. Tom Cavinder and George Leverette of the U. S. Environmental Protection Agency, Surveillance and Analysis Division, investigated wastewater discharges from the subject industry on November 4-5, 1974. Only wastewater discharged into Chewacla Creek were sampled. Messrs. Palmer Peterson and Robert Sweet served as plant contacts. Mr. John Guthrie of the Alabama Water Improvement Commission accompanied EPA personnel on November 5 and split samples.

MANUFACTURING PROCESS AND WASTEWATER DISCHARGES

The Uniroyal Plant at Opelika produces pneumatic tire casings for passenger cars and trucks. The production capacity of the facility is 700,000 lbs/day.

Sanitary wastes are discharged into the Opelika sewerage system with a small portion of the sanitary wastes discharged into septic tanks. Four process/runoff waste streams discharge into Chewacla Creek.

Wastewater from wet dust collectors and condensate from the tire molding plant are discharged through outfall 001 (photographs I & II) after treatment. Treatment consists of a 0.5 acre settling pond. During the survey, the pond level was well below the discharge pipe invert.

Outfall 002 (photographs III & IV) is the major outfall from this facility. Wastewater contain discharges from the wet dust collectors, overflow from the tire tread cooler and Boiler Blowdown. Treatment of this wastewater is afforded by oil separators, a 0.7 acre settling lagoon and a straw filter.

Cooling tower Blowdown and surface runoff is discharged through outfall 003. This water is discharged untreated.

Outfall 004 (photograph #V) is supposed to discharge only surface runoff. However, there was a discharge from this outfall even though no runoff was occurring at the beginning of this investigation. There was rainfall during the morning of November 5, 1974 and runoff was reflected in the flow at the outfall.

SAMPLING PROCEDURES AND STUDY RESULTS

Outfalls 002, 003 and 004 were sampled for one day using ISCO Model 1391 automatic samplers. The samplers collected aliquots of sample at hourly intervals for a 24-hour composite sample. Grab samples were taken at the beginning and the end of the compositing period.

Outfall 001 was not discharging during the study; however, grab samples were taken from the settling pond on November 4 and 5.

Flow was measured only at outfall 002. Measuring equipment consisted of a Parshall Flume and recorder.

From the time of acquisition until the samples were hand-carried to the laboratory in Athens, all samples were kept refrigerated/preserved. Teflon tubing and teflon bottle liners were employed on samples for oil and grease and for organic analysis. Chain-of-custody was maintained on all samples.

ANALYTICAL RESULTS

The samples were prepared for organic analysis by: solvent extraction at neutral, acid and basic pH's; distillation for volatile and water soluble organics; direct aqueous injection of the water sample for organics of 0.5 mg/L and headspace analysis for volatile organics. The acid extract was also esterified with diazomethane for the organic acids. The gas chromatograph/flame ionization detector was used for screening the prepared samples and for quantitation. The compounds listed were identified using gas chromatograph/mass spectrometer system.

Two highly toxic organic compounds, isophorone and 2,3,4 trichlorophenol, in relatively low concentration were identified in the Uniroyal effluent samples. There were four other organic compounds identified that were of lower toxicity. The analytical data is in the attached tables I, II, III & IV. Table I presents the waste loadings from outfall 002. This was the only outfall where flow measurement was afforded.

CONTACTS

T. R. Cavinder, US-EPA, Athens, GA, 404-546-3117
John Guthrie, AL Water Improvement Commission
Palmer Peterson, Uniroyal, Opelika, AL

TABLE I
Waste Loadings - Outfall 002
Uniroyal
Opelika, Alabama

Station	Date 1974	Time EDT	Flow L/sec	Flow MGD	Oil & Grease mg/l	Oil & Grease kg/day	Oil & Grease lb/day	Suspended Solids mg/l	Suspended Solids kg/day	Suspended Solids lb/day	Chromium µg/l	Chromium kg/day	Chromium lb/day	Zinc µg/l	Zinc kg/day	Zinc lb/day	Nitro Propane mg/l	Nitro Propane kg/day	Nitro Propane lb/day	pH Units	Temp °C
002	11/4	1230	9.73	0.22	<5	<4.16	<9.19														
002	11/5	1230	9.73	0.22	<5	<4.16	<9.19													8.9	28
002	11/4-11/5	1230-1230	9.73	0.22				20	16.63	36.75	<50	<0.04	<0.09	83	0.07	0.15	0.12	0.10	0.22		

TABLE II
Organic Data
Uniroyal
Opelika, AL

STATION NO.	DATE OF SAMPLE	ISOPHORONE mg/L	NITRO-PROPANE mg/L	2,3,4 TRI-CHLOROPHENOL[1] mg/L	BENZO-THIAZOLE mg/L	T-BUTYL PHENOL mg/L	DI-ISOPROPYL CARBINOL[2] mg/L
001 Composited	11/4/74 1400	No organic compounds were detected in this sample by gas chromatography/					
001	11/5/74 1300	flame ionization detector					
002[3]	11/4-5/74 1230-1230	ND	0.12	ND	ND	ND	ND
003[4]	11/4-5/74 1430-1315	0.018	0.11	0.076	ND	ND	est. 1
004[5]	11/4-5/74 1500-1345	0.033	6.2	ND	0.019	0.025	est. 10

1/ Trichlorophenol is listed in the EPA proposed list of hazardous substances (F.R. of August 22, 1974)

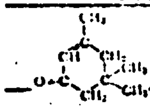
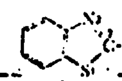
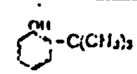
2/ This should be considered a tentative identification. No standard was available for verification or quantitation. An estimated concentration based on comparison of GC peak heights is reported.

3/ There were 3 unidentified organic compounds in the 0.001 - 0.01 mg/L range.

4/ There was one unidentified organic compound in the 0.01 to 0.05 mg/L range.

5/ Dichloromethane was tentatively identified in this sample. There were 6-10 unidentified organic compounds in the 0.001 - 0.01 mg/L range. Several of these appear to be alcohols or ethers.

TABLE III
ORGANIC COMPOUNDS IDENTIFIED
UNIROYAL
OPELIKA, AL

Industry or Source	Organic Compound	Conc. Found mg/L	Chemical Formula	Chemical Class	Water Solubility 1/	Human Toxicity 1/
003 and 004	isophorone			cyclic ketone	slightly soluble	[illegible] toxic
002, 003 and 004	An isomer of nitro-propane		$CH_3CHNO_2CH_3$	nitro alkane	slightly soluble	moderate toxic
003	2,3,4 trichlorophenol			chlorinated phenol	insoluble	highly toxic
004	benzothiazole			cyclic sulfur compound	slightly soluble	may be toxic
004	An isomer of tertiary-butyl phenol			phenol	insoluble	skin irritant
003 and 004	di-isopropyl carbinol 2/		$[(CH_3)_2CH]_2\ CHOH$	alcohol	slightly soluble	low toxicit

1/ The Condensed Chemical Dictionary, Van Nostrand Reinhold Company, New York, New York, 8th Ed., 1971

2/ This should be considered a tentative identification. No standard was available for verification.

Bill

Francis

Reference 14

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P. O. Box 30
Opelika, Alabama 36801

January 11, 1983

RECEIVED
JAN 1983

State of Alabama
Department of Environmental Management
State Capitol
Montgomery, Alabama 36130

Gentlemen:

Re: Facility No. ALD041511361

After careful consideration of activities for the past year, Uniroyal, at Opelika, has decided to withdraw our application for a TDS Hazardous Waste facility. We will, however, remain a generator because of our involvement with "ignitable" materials.

Please provide forms to withdraw Part A of the permit application and advise what needs to be done to be listed as a "generator" only.

Very truly yours,

P. D. Peterson

P. D. Peterson, P.E.
Engineering Department

/eh

c: Mrs. F. Pardue
R. C. Niles - Oxford

STATE OF ALABAMA

DEPARTMENT OF ENVIRONMENTA

Reference 15

Dr. Dewey A. White, Jr.
Chairman

Thomas R. DeBrey
J. Ernest Farnell, P.E.
Interim Co-Directors

James W. Warr
Interim Deputy Director

[illegible]
Dr. Claire B. Elliott, Birmingham
J. Ernest Farnell, P.E., Mobile
Stanley L. Graves, Sylacauga
Dr. Cameron McDonald, Birmingham
Russell L. Riley, Auburn

Mailing Address:
State Capitol
Montgomery, AL 36130
Telephone: 205/277-3630

April 14, 1983

Mr. Palmer Peterson, P. E.
Uniroyal Tire Company
P. O. Box 30
Opelika, Alabama 36801

Re: Uniroyal Tire Company
ALD 041 511 361

Dear Sir:

This is to acknowledge receipt of your request to withdraw your Part A, RCRA Permit Application. Since Alabama has Phase I Authorization, it will be our responsibility to determine if your request should be honored.

Based upon the information you supplied, it appears that your facility is no longer treating, storing, or disposing of hazardous waste and is, therefore, not subject to Alabama's Hazardous Waste Management Regulations. Therefore, your request to withdraw your Part A Application is granted. However, you should be aware that as a generator of hazardous waste you must meet the generator requirements of RCRA as specified in 40 CFR 262.

You should be aware that your request to withdraw interim status means that you may not treat, store, or dispose of hazardous waste without a permit issued under the authority of Code of Ala. 1975, Section 22-30-12, as amended, and the Regulations adopted thereunder.

Should you have questions or comments, please feel free to contact this office.

Sincerely,

Bernard E. Cox, Jr., Chief
Industrial and Hazardous Waste Section
Land Program

BEC:rc

cc: Mr. James Scarbrough
EPA Region IV

Reference 16

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV
Uniroyal, Inc.
RCRA status

BVWST Project 52012.193
BVWST File
November 29, 1993
1440

To: Ken Freely
Company: USEPA Region IV RCRA/Alabama
Phone No.: (404)347-7603

Recorded by: K.A. Lewis

Ken Freely stated that Uniroyal Goodrich Tire is currently a large quantity generator of hazardous waste.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
EPS FORM 3012-III

INDUSTRIAL NARRATIVE SHEET

1. Site Identification:

Site number: ALD041511361

Site name: Uniroyal, Inc.

Site county: Lee

2. Industrial Narrative Summary:

Company Name: Uniroyal, Inc.

Address: Highway 169
Opelika, AL 36801

Telephone No.: 205/745-6411

Contact: Palmer Peterson

Discussion: Uniroyal, Inc. has manufactured tires at this site since 1963. Prior to their occupation of this site, the land was used for farming. Their waste materials consist of waste rubber cement (about 30 drums/year) and waste oil. The waste oil was burned for a period under a permit for heat recovery. The files indicate that they have disposed of rubber - gasoline wastes at local landfills, specifically the Opelika and Tallapoosa county landfills. The details and extent of disposed material were not recalled but they felt that very little material was placed in the Tallapoosa landfill because it was so far from the site. The main waste material which was placed in the Opelika landfill was water and rubber dust. Most of the waste rubber cement was stored on a farm in the area in drums and these drums were removed prior to RCRA. There was public concern about water discharges from the site when they first began operations. The outfalls were directly upstream from the community drinking water supply and there were trace levels (ppb) of six organic chemicals in the stormwater runoff. These six organics are nitropropane, diisopropylcarbinol, isophorone, benzothiazole, t-butylphenol and thrichlorophenol. This stormwater was diverted through ponds at the site and after some debate, the company agreed to discharge the water into another creek in the area. One of the ponds used has been abandoned and they currently are using a settling pond. Annual monitoring of the rainwater run-off since 1976 has indicated the presence of these compounds. When questioned about the source of these materials, the company indicated that they thought they came from the materials they use for accelerators in the process. There is some concern that the ponds and sediments may contain residual levels of these compounds.

The company has recently made an effort to locate any unknown materials at the site and dispose of them. They have collected approximately 50 drums of material which has been analyzed and are in the process of having this material removed. The initial test results indicate potential incompatible wastes and toxic levels of mercury, low flash points and corrosivity. Removal of these materials as well as the identification of their sources is currently being addressed by ADEM. Storage areas for these materials will be inspected in the near future and areas where spills have been identified will be reinspected to assure that these areas have been cleaned satisfactorily. Although the compliance history for this company is not good, problems are being addressed by ADEM. The company has withdrawn from interim status and are being regulated under generator standards.

3. Disposition:

Settling ponds currently being used and the abandoned pond indicated in the facility line drawing warrant inspection as organics have been detected in the water from the facility. Other areas are being regulated by ADEM under generator standards; however, potential sources for the organic contamination need to be noted. This company has withdrawn from interim status.

4. Comments:

Although specific details are not available for time periods involved, this company has used both the Tallapoosa landfill and the Opelika landfill for waste materials. They indicate that some gasoline-dissolved rubber was placed in the Tallapoosa landfill while the material in the Opelika landfill was mainly water and rubber. The Opelika landfill was probably used more extensively than the Tallapoosa as it is in closer proximity to the site. They also indicate that they did store drums of rubber cement on a farm in the area (unidentified) but that they were removed prior to RCRA.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PA FORM 2070-12

TELEPHONE LOG SHEET

1. **Site Identification:**
   Site number: ALD041511361
   Site name: Uniroyal, Inc.

2. **Interview Data:** (Party called)
   Name: Palmer Peterson
   Position: Chief M.E.
   Firm: Uniroyal
   Address: P.O. Box 30
   Opelika, AL/ 36801
   Telephone No.: (205) 745-6411

3. **EPS Analyst Data:**
   Name: Donalea Dinsmore
   Purpose of call: Investigate file information

   Form 2070-12 (7-81) P.N.
   Date of call: 9-21-84

4. Interview Narrative Summary: To best of his knowlege, they had never used PbO. Before Uniroyal, there was only forestland. Only tires have ever been landfilled at this site and this is documented in the file. Doesn't remember about the material placed in the Talapoosa landfill and doesn't think it was much because that is so far away from the plant. They did landfill some waste oil and they also burned some under a permit for heat recovery. The material which went to the Opelika landfill was mainly water and rubber dust. Most of the waste rubber cement went into drums and was stored on a farm. This was cleaned up when RCRA came into effect. They generate about 30 drums per year of the rubber cement. The abandoned pond received mainly oily water and rubber dust with water. It was abandoned by mutual consent because the residents were concerned about contamination of the drinking water source. They bagan pumping the water to the other creek. The drums that were found at the site in the recent site inspection were from spill material in the process. They had intended to rework the material but waited too long. The spill was in a contained area and they had to dig it up. The material solidifies at about 110°F so it could easily be totally removed. They have hired a student to identify waste materials in the plant and have about 50 drums of unknown material. This includes discontinued process products, samples and cleaners and drums with broken seals. They do have a small PCB leak now and other than the reported problem in the past, they know of no other instances.

5. Disposition/Comments:
Check with Ashley Chadwick about the results of the recent testing.

6. Comments: Any additional sites used by this company?
   Location:
   Dates of use:
   Description of waste:

   Comments:

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

Alabama RCRA 3012 Site Ranking Scheme
EPS Form 3012-V

Site Name Uniroyal, Inc
Site Number ALD041511361

Preliminary Assessment Ranking Scheme to Determine Which Sites Merit Further Action.

(Select one answer for each of the following seven questions)

1. Are Hazardous Substances Present?

A. Confirmed on site!	10 points	
B. Suspected at site!	5 points	X
C. It is unknown!	2 points	
D. No hazardous substances	0 points	
E. RCRA facility only!	0 points	

2. Is There a Pollution Dispersal Pathway?

A. Direct to surface and/or groundwater.	5 points	
B. Indirect to surface and/or groundwater.	4 points	
C. Suspected to surface and/or groundwater.	3 points	X
D. Not known for sure.	2 points	
E. No pathway.	0 points	

3. Characteristics of Human Population?

A. High density.	5 points	
B. Medium density.	4 points	
C. Low density.	3 points	X
D. No population.	2 points	

4. Characteristics of Natural Environment?

A. Critical habitat including endangered species, etc.	5 points	
B. Sensitive habitat.	3 points	
C. Common less sensitive habitat.	2 points	X

5. How is Human Population Affected By Site?

A. Public utility of drinking water from site.	5 points	
B. Direct public access to site.	4 points	
C. Public access to affected surface water.	3 points	
D. Only potential for human population contact.	2 points	X
E. Low or no potential for contact.	1 point	

6. Facility Management Practices at Site?

A. Site actively supervised and managed currently with monitoring reports and other permit and report requirements.	1 point	
B. Site inadequately managed records not up-to-date.	3 points	X

C. Site not currently managed or regulated. 4 points ________
D. Abandon site. 5 points ________

7. Potential Responsible Parties for Site Operations?
   A. Controlling party identified and accepts responsibility for site. 1 point X
   B. Suspected controlling party identified but does not accept responsibility for site. 4 points ________
   C. No responsible party available. 5 points ________

Ranking Score =

$$\underset{\#1}{5}\left[\times \underset{\#2}{3} + \underset{\#4}{2} + (\underset{\#3}{3} \times \underset{\#5}{2}) + \underset{\#6}{3} + \underset{\#7}{1}\right]$$

TABLE 1. Ranking Assessment

NUMERICAL RANGE	PRIORITY ASSESSMENT
0-50	NONE
50-150	LOW
150-300	MEDIUM
300-450	HIGH

Ranking Score: 75

Priority Assessment: LOW

POTENTIAL HAZARDOUS WASTE S)
PRELIMINARY ASSESSMENT
EPS FORM 3012-I
EPS ANALYST/REVIEWER CHECKLIST

Site No. ALD 0451136 1
Site Name UNIROYAL, INC

Instructions: To be used in conjunction with EPA Form 2070-12 (7-81). Attach on inside front of site folder. Initial and date for all assessment entries under appropriate part/subpart as completed. initial/date in black for final assessment; in red if higher level (additional) assessment is in order. Follow same procedure for review process.

Review Codes: 1-Toxicology Review; 2-Chemical Review; 3-Ecology Review; 4-Chemical Engineer Review; 5-Geotechnical Review; 6-Project Manager Review; 7-Final Review

1. ANALYST/REVIEW STATUS

Form 2070 Part Number	Analyst/ Date	Review Code 1	Review Code 2	Review Code 3	Review Code 4	Review Code 5	Review Code 6	Review Code 7
1.I.-VI.	DD 9/6/84							
							Lww 9/20	Lww 9/20
2.I.								
2.II.								
2.III.								
2.IV.								
2.V.								
2.VI.	DD						Lww	Lww
3.I.								
3.II.A								
3.II.B								
3.II.C								
3.II.D								
3.II.E								
3.II.F								
3.II.G								
3.II.H								
3.II.I								
3.II.J								
3.II.K								
3.II.L								
3.II.M								
3.II.N								
3.II.O								
3.II.P								
3.III.								
3.IV.								
3.V.								

*No further assessment/review required, enter NA

Reference 18

UNIROYAL

UNIROYAL
Division of UI
P.O. Box 30
Opelika, Alabama 36801

March 4, 1982

Re: Permit AL0000621

State of Alabama
Water Improvement Commission
Public Health Services Building
Montgomery, Alabama 36130

Attention: Mr. Bill Lott

Dear Mr. Lott:

Organic scans required by reference permit for outfalls .002 and .003 have been performed and the results are as follows:

Chemical		.002 South	.003 North
Isophorone	-	1.7 ppb	1.8 ppb — EPA 440/5-80-056 WAI
Benzothizole	-	.7 ppb	.5 ppb
O-t-Butylphenol	-	.3 ppb	.5 ppb
2,4,6 Trichloropherol	-	1.2 ppb	1.5 ppb
2-Nitropropane	-	2.9 ppm	68 ppb

The comment sheet from our test lab has been included.

Very truly yours,

P. D. Peterson, P.E.
Engineering

/eh

Enc.

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

January 18, 1983

Re: Permit AL0000621

State of Alabama
Department of Environmental Management
NPDES Division
State Capitol
Montgomery, Alabama 36130

Gentlemen:

Organic scans required by reference Permit 002 and 003 have been performed and the results are as follows:

Chemical	Max Amt. 002 and 003
Isophorone	0.2 ppb
Benzothiazole	0.4 ppb
o-t-Butylphenol	0.2 ppb
2,4,6-Trichlorophenol	0.2 ppb
2-Nitropropane	0.2 ppb
Nitropropane	0.2 ppb

The comment sheet from our test lab has been included.

Very truly yours,

P. D. Peterson

P. D. Peterson, P.E.
Engineering

/eh

Enc.

CC: Gucciardo
RGNiles-Ox
LGC-PEL
Library
JEN-2

UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.

ANALYTICAL RESEARCH LABORATORY

January 9, 1979

Opelika Effluent

J. E. Newell

Three samples of storm sewer water from Opelika have been analysed for traces of six specific compounds. The results of the analyses are:

Table I: Parts per Billion of Component

Sample	"South Storm Sewer"	"Opelika North Storm Sewer A-30-78"	"North Storm Sewer"
	(003)	(004)	(004)
Component			
Nitropropane	3 ppb.	< 0.5 ppb.	0.6 ppb.
Diisopropylcarbinol	2 ppb.	0.2 ppb.	0.6 ppb.
Isophorone	2 ppb.	< 0.2 ppb.	< 0.2 ppb.
Benzothiazole	13 ppb.	1 ppb.	1 ppb.
t-Butylphenol	< 0.5 ppb.	< 0.2 ppb.	< 0.2 ppb.
Trichlorophenol	1 ppb.	1 ppb.	1 ppb.

A fourth sample from Opelika was lost in shipment. (003)

Two 2500 ml. samples of distilled water were contaminated with known amounts of each of the components. The water was then analysed by the same method as the unknown. The results were as follows:

ORGANIC SCAN RESULTS

CHEMICAL	1979		1978 Jan.		1978 Aug.		1977 Aug.		1977 April		1976 Jan.		1976	
	By Uniroyal		By Uniroyal		By EPA		By Uniroyal		By Uniroyal		By Uniroyal		By EPA	
	PPb		PPb		PPb		PPb		PPb		PPb		PPb	
	003	004	003	004	003	004	003	004	003	004	003	004	003	00
NITROPROPANE	2.2	1	3	.6	* ND	* ND	< 4	< 4	< 4	20	180	470	11	6200
DIISOPROPYLCARBINOL	1.7	.5	2	.6	ND	ND	< 4	< 4	4	2	9	-	1	10
ISOPHORONE	.7	1	2	< .2	ND	ND	-	< 7	13	12	-	95	18	33
BENZOTHIAZOLE	4.4	<1	13	1	ND	ND	480	< 9	17	5	49	290	-	190
T-BUTYLPHENOL	4.7	5	< 5	< .2	ND	ND	< 2	< 2	< 6	< 6	-	6	-	25
TRICHLOROPHENOL	2.5	4	1	1	ND	ND	<14	< 4	4	4	-	14	76	[illegible]

*ND - Non-detected

UNIROYAL, INC.
OPELIKA PLANT

March 20, 1980

P. D. Peterson

LAND PROGRAM

19___ Hazardous Waste Generators Annual Report

I. Facility ID # ALD041511361

II. Facility Name UNIROYAL TIRE COMPANY

III. Location of Facility P. O. BOX 30
(Street or Route Number)

OPELIKA	LEE	ALABAMA	36801
City	County	State	Zip Code

MAR 1984 RECEIVED ADEM Land Division

Installation Contact P. D. PETERSON 205 - 745-6411 EXT. 215
Name Area Code Telephone Number

V. During 19 83 the facility did [X] did not [ ] generate reportable amounts of hazardous waste. (If you check did not, skip to item VII.)

VI. Waste Identification:

	A. EPA Waste Number	B. Waste Description	C. Amount of Waste (lbs)	D. Receiving Facility	E. Receiving Facility ID Number	F. Transporter Name	G. Transporter ID Number
1.	D001	RUBBER CEMENT	24,640	W. MANAGEMENT	ALD000622464	H. DANIEL	ALD050978055
2.							
3.	-	WASTE OIL	108,240	W. MANAGEMENT	ALD000622464		
4.							
5.							
6.							

VII. Certification:

Signature P.D. Peterson P. D. PETERSON
(Print or Type)

Title ENVIRONMENTAL ENGINEER

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all atta documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the s ... accurate and complete. I am aware that there are significant penalties for submitting false information, includin

Reference 19

Uniroyal, Inc.

LAND PROGRAM

1982 Hazardous Waste Generator and On-Site TSD Facility Annual Report

NOTE: Read all instructions prior to completing this form.

I. Installation EPA ID Number: ALD041511301

II. Name of Installation: Uniroyal, Inc.

III. Location of Installation: Highway 169 & Uniroyal Road
(Street or Route Number)

Opelika (City or Town) Lee (County) Alabama (State) 36801 (Zip Code)

IV. Installation Contact: Palmer D. Peterson (Name) 205-745-6411, Ext. 406 or 231 (Area Code) (Telephone Number)

V. Waste Identification:

Line Number	A. EPA Waste Number	B. Description of Waste	C. Quantity Generated (LBS)	D. Amount of Waste by Handling Method: 1. Handling Method Code	2. Quantity Stored, Treated Disposed, or Recovered On-Site	Shipped to Off-Site Treatment Disposal, or Recovery Facility: 3. Quantity	4. Facility EPA ID No./Recovery Facility Name
1.	D003	Waste Rubber Cement	810	501	0	801	Hazardous Waste Man.
2.							
3.							
4.							
5.							

(If more space is needed, check ☐ and complete Attachment I)

VI. Closure Cost Estimate for Facilities $ (Not a TDS Facility)

VII. Cost Estimate for Post-Closure Monitoring and Maintenance (Disposal Facility Only) $ -

VIII. Certification:

[signature] (Signature) J. M. Lane (Print or Type Name) Plant Manager (Title)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information

ENVIRONMENTAL MANAGEMENT

LAND PROGRAM

19 84 Hazardous Waste Generators Annual Report

I. Facility ID # ALD041511361

II. Facility Name UNIROYAL TIRE COMPANY

III. Location of Facility P. O. BOX 30
(Street or Route Number)

OPELIKA	LEE	ALABAMA	36801
City	County	State	Zip Code

. Installation Contact P. D. PETERSON — 205-745-6411 EXT. 215
Name — Area Code Telephone Number

V. During 19 84 the facility did [X] did not [ ] generate reportable amounts of hazardous waste. (If you check did not, skip to item VII.)

VI. Waste Identification:

A. EPA Waste Number	B. Waste Description	C. Amount of Waste (lbs)	D. Receiving Facility	E. Receiving Facility ID Number	F. Transporter Name	G. Transporter ID Number
D004	WASTE ARSENIC MIXTURE	1,788	W. MANAGEMENT	ALD000622464	H. DANIEL	ALD050978055
–	WASTE OIL	146,575	W. MANAGEMENT	ALD000622464	H. DANIEL	ALD050978055
D001	RUBBER CEMENT	35,035	W.MANAGEMENT	ALD000622464	H. DANIEL	ALD050978055

. Certification:

Signature [signature] — P. D. PETERSON
(Print or Type)

Title ENVIRONMENTAL ENGINEER

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached ments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted rmation is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the ibility of fine and imprisonment.

ALD 041 ... 361

450

AL - XX6 - 450 - 005

Reference 20

MAP 168

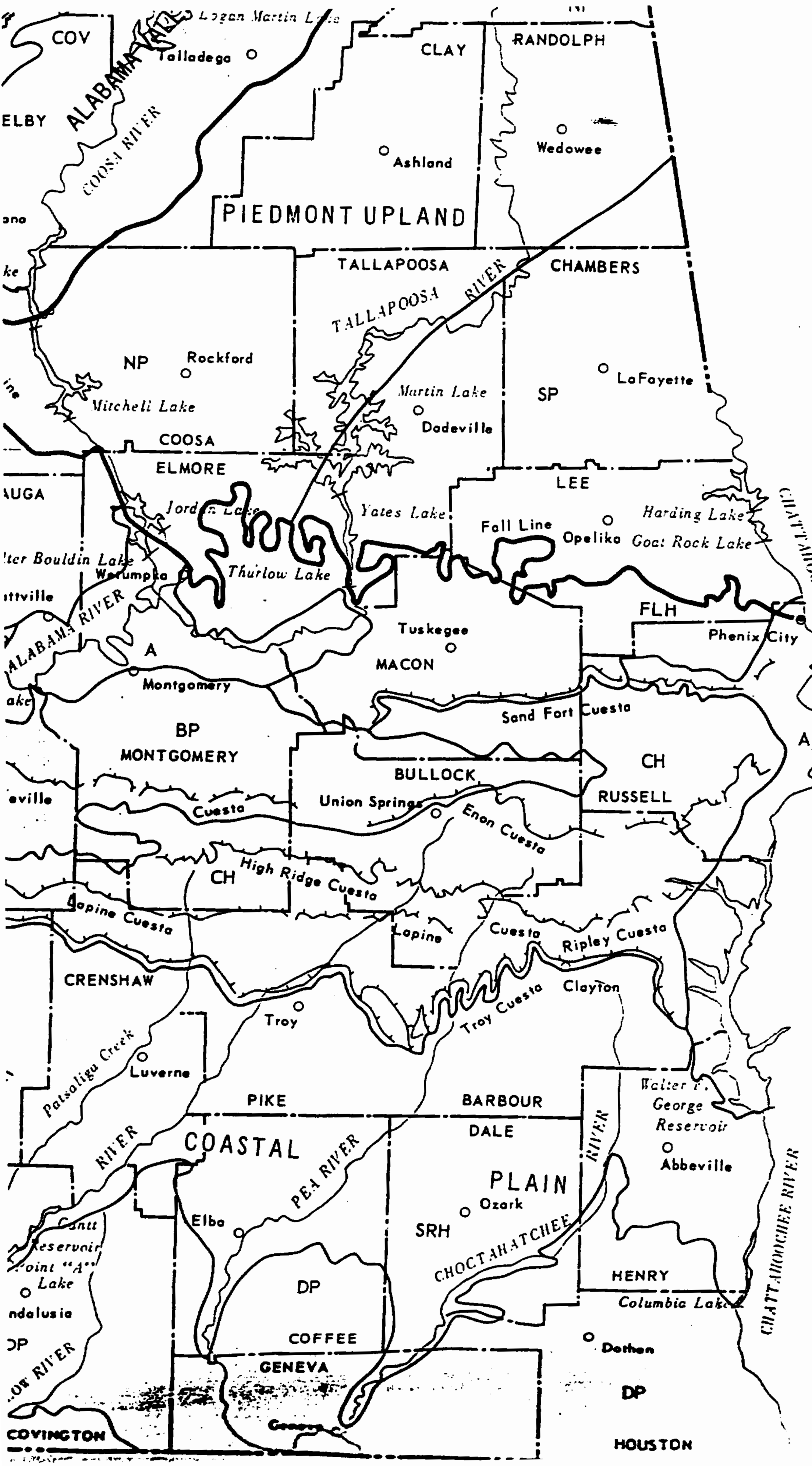
PHYSIOGRAPHIC REGIONS OF ALABAMA

STATE OF ALABAMA
GEOLOGICAL SURVEY

Prepared by C. Daniel Sapp and Jacques Emplaincourt

CLASSIFICATION*

Physiographic Section	District (and Map Symbol)	Physiographic Section	District (and Map Symbol)
Highland Rim[a]	Tennessee Valley (TV)	East Gulf Coastal Plain[e]	Fall Line Hills (FLH)
	Little Mountain (LIM)		Black Prairie (BP)
	Moulton Valley (MOV)		Chunnenuggee Hills (CH)
			[illegible]



	Jackson
	Sand Mo
	Sequatc
	Blount M
	Murphree
	Wills Val
	Lookout M
Alabama Valley and Ridge[c]	Coosa Val
	Coosa Rid
	Weisner Ri
	Cahaba Va
	Cahaba Rid
	Birmingham-E
	Armuchee R
Piedmont Upland[d]	Northern Pie
	Southern Pie

[a]Interior Plains physiographic division,

[b]Appalachian Highlands division, Appa

[c]Appalachian Highlands division, Valle

[d]Appalachian Highlands division, Piedm

[e]Atlantic Plains division, Coastal Plain

*See reverse side of map for comple

Section and District boundaries w
USGS topographic maps and ERTS

This physiographic m
"Investigations Using
of the Interior, Earth
"User Acceptance an

PHIC REGIONS OF ALABAMA

STATE OF ALABAMA
GEOLOGICAL SURVEY

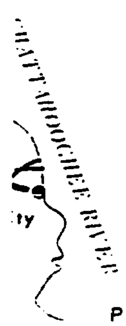
Prepared by C. Daniel Sapp and Jacques Emplaincourt

CLASSIFICATION*

Physiographic Section	District (and Map Symbol)
Highland Rim[a]	Tennessee Valley (TV)
	Little Mountain (LIM)
	Moulton Valley (MOV)
Cumberland Plateau[b]	Warrior Basin (WB)
	Jackson County Mountains (JCM)
	Sand Mountain (SM)
	Sequatchie Valley (SQV)
	Blount Mountain (BM)
	Murphrees Valley (MV)
	Wills Valley (WV)
	Lookout Mountain (LOM)
Alabama Valley and Ridge[c]	Coosa Valley (COV)
	Coosa Ridges (COR)
	Weisner Ridges (WR)
	Cahaba Valley (CAV)
	Cahaba Ridges (CAR)
	Birmingham-Big Canoe Valley (BBC)
	Armuchee Ridges (AR)
Piedmont Upland[d]	Northern Piedmont Upland (NP)

Physiographic Section	District (and Map Symbol)
East Gulf Coastal Plain[e]	Fall Line Hills (FLH)
	Black Prairie (BP)
	Chunnenuggee Hills (CH)
	Southern Red Hills (SRH)
	Flatwoods (F) Subdistrict
	Buhrstone Hills (BH) Subdistr
	Lime Hills (LH)
	Hatchetigbee Dome (HD) Subd
	Coastal Lowlands (CL)
	Southern Pine Hills (SPH)
	Dougherty Plain (DP)

Alluvial-deltaic Plain (A,Ad)



MAP SYMBOLS

DC
District abbreviation

Section boundary, firm

Section boundary, approximate; lacking distinct topographic ex

District boundary, firm

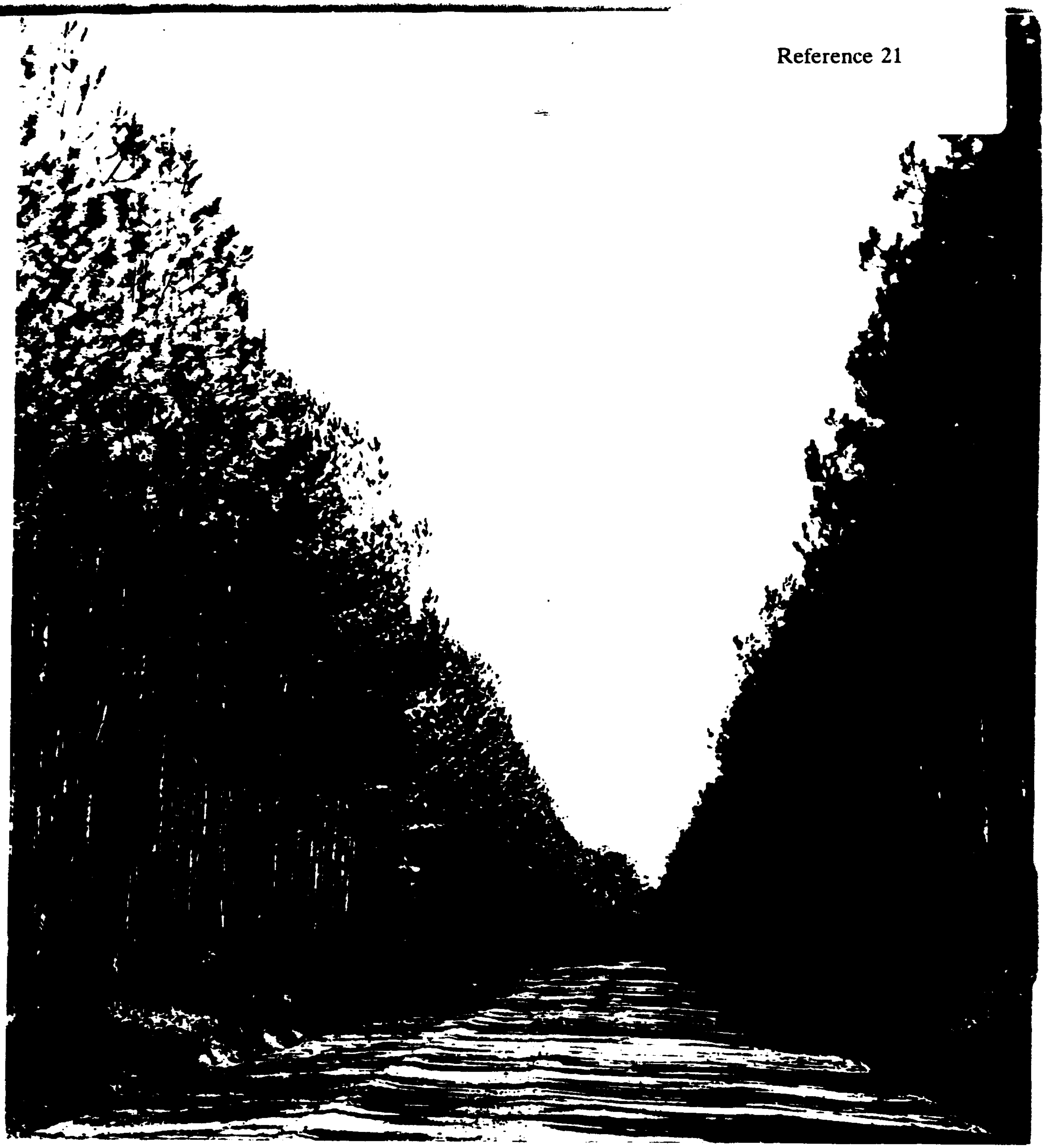
Cahaba Ridges (...	Wide sha... faulte...
Birmingham-Big Canoe Valley (BBC)	Narrow limestone va... wide developed on ... Shale, sandstone, and chert exposed. ... ham Valley opens into the Big Canoe Valley in the north.
Armuchee Ridges (AR)	Narrow northeast-trending chert and sandstone ridges and intervening lowlands.
Northern Piedmont Upland (NP)	Well-dissected upland developed on metamorphosed sedimentary and igneous rocks. Elevations generally 1,000 to 1,100 ft (305 to 335 m) in north and 500 to 600 ft (152 to 183 m) in south. Rebecca and Talladega Mountains form a prominent northeast-trend-ing ... 2,407 ...
	...derate relief. ...ong northern edge in ...hnstone *Hills* (BH) along ...ge of district are developed on in-...d resistant siliceous claystone and sand-stone.
	Rugged topography developed on more resistant limestone; *Hatachetigbee Dome* (HD) is northwest-southeast oriented flexure within this district.
...ougherty Plain (DP)	Continuation of limestone upland westward from Georgia. Undifferentiated limestone residuum, bedded sand and clay, and surficial terrace material. Active limestone solution has transferred most minor drainageways to subsurface, especially in extreme southeastern Alabama. Topography is that of low cuesta, more dissected in south-central Alabama than in southeast. Extensively cultivated.
Southern Pine Hills (SPH)	Upland underlain by Pliocene-Pleistocene terrigenous sediments of the Citronelle Formation. Younger terrace deposits occur along major streams. Upland slopes gradually southward from 400 to 500 ft (122 to 152 m) elevation to 25 to 30 ft (8 to 9 m) at southern limit, adjacent to the Pamlico marine scarp. Relief up to 250 ft (76 m) in north but less than 100 ft (30 m) in the south.
Coastal Lowlands (CL)	Flat to gently undulating locally swampy plain underlain by terrigenous deposits of Holocene and late Pleistocene age. Includes mainland plain indented by many tidal streams and fringed by tidal marsh and offshore barrier islands. Landward edge of district is defined by base of Pamlico marine scarp at 25 to 30 ft (8 to 9 m) elevation. Barrier islands and tidal marsh are undergoing continuing modification by erosion and deposition.
Alluvial-deltaic Plain (A, Ad)	A - Alluvium and terrace deposits of larger river valleys. Ad - Alluvium of Mobile River delta.

REFERENCES

pt. Conserv. Geol. Bull. 17, 118 p.
ited States: New York and London, McGraw-Hill, 714 p.
essee Valley region in Alabama: Alabama Geol. Survey Spec. Rept. 17, p. 16-25.
hern Alabama: Alabama Geol. Survey Bull. 38, 48 p.
ormations of Alabama: U. S. Geol. Survey Oil and Gas Inv. Map 45.
d Ripley age in Alabama: Alabama Geol. Survey Bull. 48, 150 p.
of Alabama uncontrolled ERTS-1 mosaic: Alabama Geol. Survey Image 1.

		northeast-southwest; relatively high quartzite ridges along eastern border. Plain is formed on limestone and shale, with some rocks of metamorphic grade in south where the surface is more dissected. Broad, low, rolling terrain borders the Coosa River.
	Coosa Ridges (COR)	Series of parallel linear ridges formed by folded resistant sandstone.
	Weisner Ridges (WR)	Maturely dissected faulted and folded quartzite mountains of high relief with intervening narrow carbonate valleys.
	Cahaba Valley (CAV)	Narrow valley widening to south developed on faulted homocline.
	Cahaba Ridges (CAR)	Series of parallel northeast-striking ridges formed by gently folded sandstone and conglomerate beds with intervening shale valleys. Wide shale valley in south.
	Birmingham-Big Canoe Valley (BBC)	Narrow limestone valley 4 to 8 mi (6 to 13 km) wide developed on faulted anticlinorium. Shale, sandstone, and chert exposed. Birmingham Valley opens into the Big Canoe Valley in the north.
	Armuchee Ridges (AR)	Narrow northeast-trending chert and sandstone ridges and intervening lowlands.
ɔland	Northern Piedmont Upland (NP)	Well-dissected upland developed on metamorphosed sedimentary and igneous rocks. Elevations generally 1,000 to 1,100 ft (305 to 335 m) in north and 500 to 600 ft (152 to 183 m) in south. Rebecca and Talladega Mountains form a prominent northeast-trending ridge. Cheaha Mountain (elevation 2,407 ft [734 m]), the highest point in Alabama, is on the northeastern end of this ridge.
	Southern Piedmont Upland (SP)	Upland surface incised about 200 ft (61 m) by tributaries of Chattahoochee and Tallapoosa Rivers. Developed on schist and gneiss. No prominent topographic features present.
astal Plain	Fall Line Hills (FLH)	Dissected upland with a few broad, flat ridges. In this zone streams descend from resistant Paleozoic sedimentary and Piedmont crystalline rocks to the less resistant Cretaceous sand and clay of the Coastal Plain.
	Black Prairie (BP)	Undulating, deeply weathered plain developed mainly on chalk and marl.
	Chunnenuggee Hills (CH)	Pine-forested series of sand hills and cuestas developed on chalk in west Alabama and more resistant clay, siltstone, and sandstone in the east.
	Southern Red Hills (SRH)	Southward-sloping upland of moderate relief. Flatwoods (F) lowland along northern edge in west. Rugged *Buhrstone Hills* (BH) along southern edge of district are developed on indurated resistant siliceous claystone and sandstone.
	Lime Hills (LH)	Rugged topography developed on more resistant limestone; *Hatachetigbee Dome* (HD) is northwest-southeast oriented flexure within this district.
	Dougherty Plain (DP)	Continuation of limestone upland westward from Georgia. Undifferentiated limestone residuum, bedded sand and clay, and surficial terrace material. Active limestone solution has transferred most minor drainageways to subsurface, especially in extreme southeastern Alabama. Topography is that of low cuesta, more dissected in south-central Alabama than in southeast. Extensively cultivated.
	Southern Pine Hills (SPH)	Upland underlain by Pliocene-Pleistocene terrigenous sediments of the Citronelle Formation. Younger terrace deposits occur along major streams. Upland slopes gradually southward from 400 to 500 ft (122 to 152 m) ele-

Reference 21



soil urvey of LEE COUNTY, ALABAMA

United States Department of Agriculture, Soil Conservation Service
in cooperation with
Alabama Agricultural Experiment Station and
Alabama Department of Agriculture and Industries

contents

soil series

Issued April 1981

ɔpland. Good tilth is easily maintained by returning ɔp residue to the soil. Erosion is a moderate hazard if ltivated crops are grown. Minimum tillage and the use cover crops, including grasses and legumes, in the ɔpping system help control erosion.

This soil is used mainly as woodland. It has good tential for loblolly pine, slash pine, and longleaf pine. cause of the sandy texture, the seedling mortality rate moderate, and the use of equipment is moderately stricted.

This soil has fair potential for most building site velopment. Slope is a moderate limitation, but this iitation can be overcome by proper design and stallation. The perched water table and the moderate rink-swell potential of the subsoil are moderate iitations to use of the soil for dwellings with sements. Seasonal wetness and the moderately slow rmeability in the lower part of the subsoil are severe iitations to use of the soil as septic tank absorption lds. The low to moderate available water capacity of soil is a limitation to establishing and maintaining lawns and shrubs. This limitation can be overcome by frequent applications of water during dry periods.

This soil is in capability subclass IVs and in woodland group 3s.

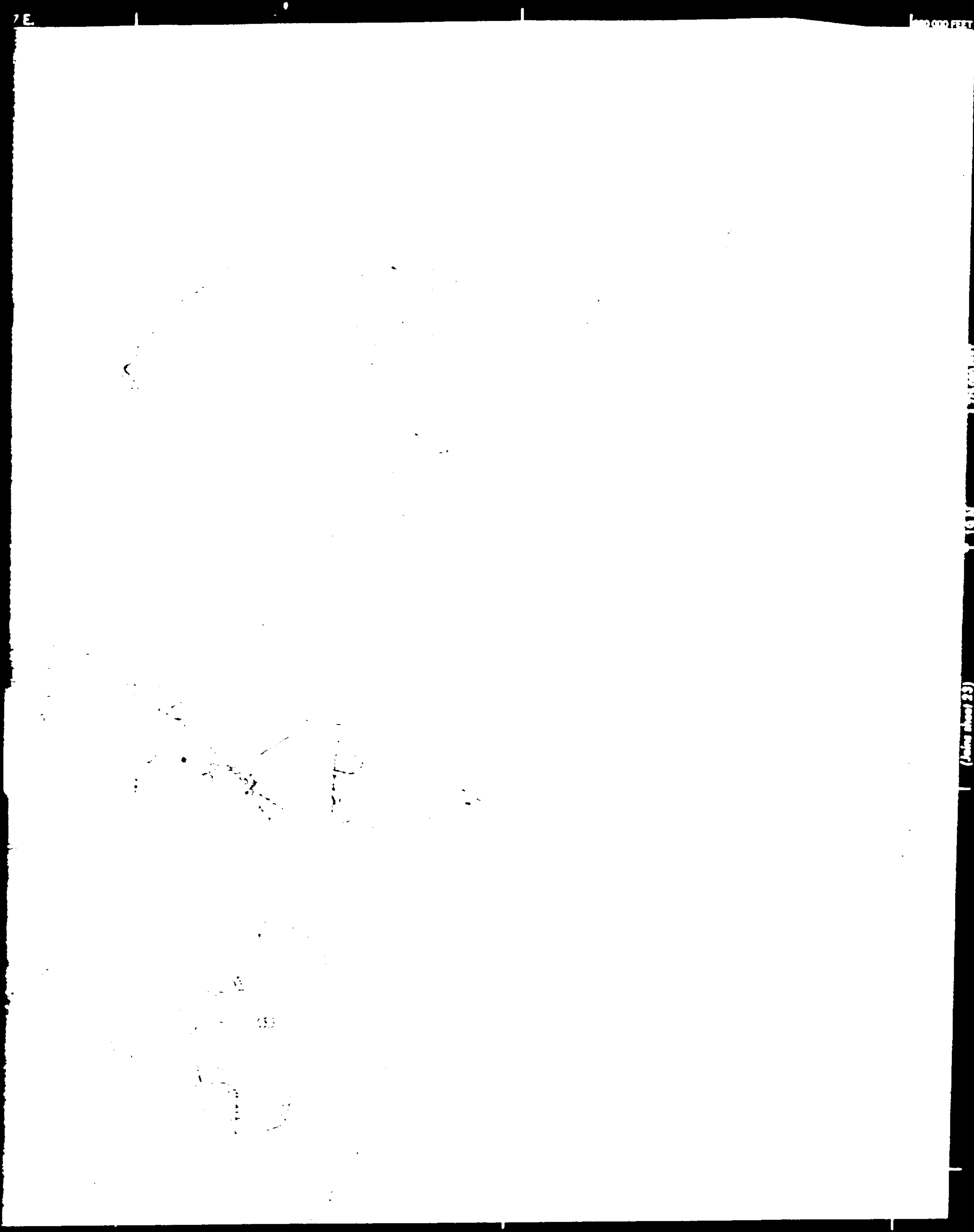
43—Urban land. This map unit consists of extensively built-up land where 85 to 100 percent of the surface is covered by structures, asphalt, and concrete or has been disturbed by cutting and filling.

Most of these areas are gently sloping or sloping. Slopes range to 10 percent. Storm drains control runoff in the paved areas, and most of the unpaved areas are sodded.

Included in mapping are small areas of moderately built-up land where structures cover only 50 to 85 percent of the surface. Also included are remnants of undisturbed soils and areas where the surface layer has been removed by grading. The included areas make up as much as 15 percent of the map unit.

The soils in this unit have been so altered or obscured that they cannot be classified; they are not assigned to a capability subclass or a woodland group.

MA — SHEET NUMBER 22



1 ¾ ½ ¼ 0 1 Mile

5 000 4 000 3 000 2 000 1 000 0 5 000 Feet

Scale -1:20000

N

(22)

LEE COUN

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ALABAMA AGRICULTURAL EXPERIMENT STATION
ALABAMA DEPARTMENT OF AGRICULTURE AND INDUSTRIES

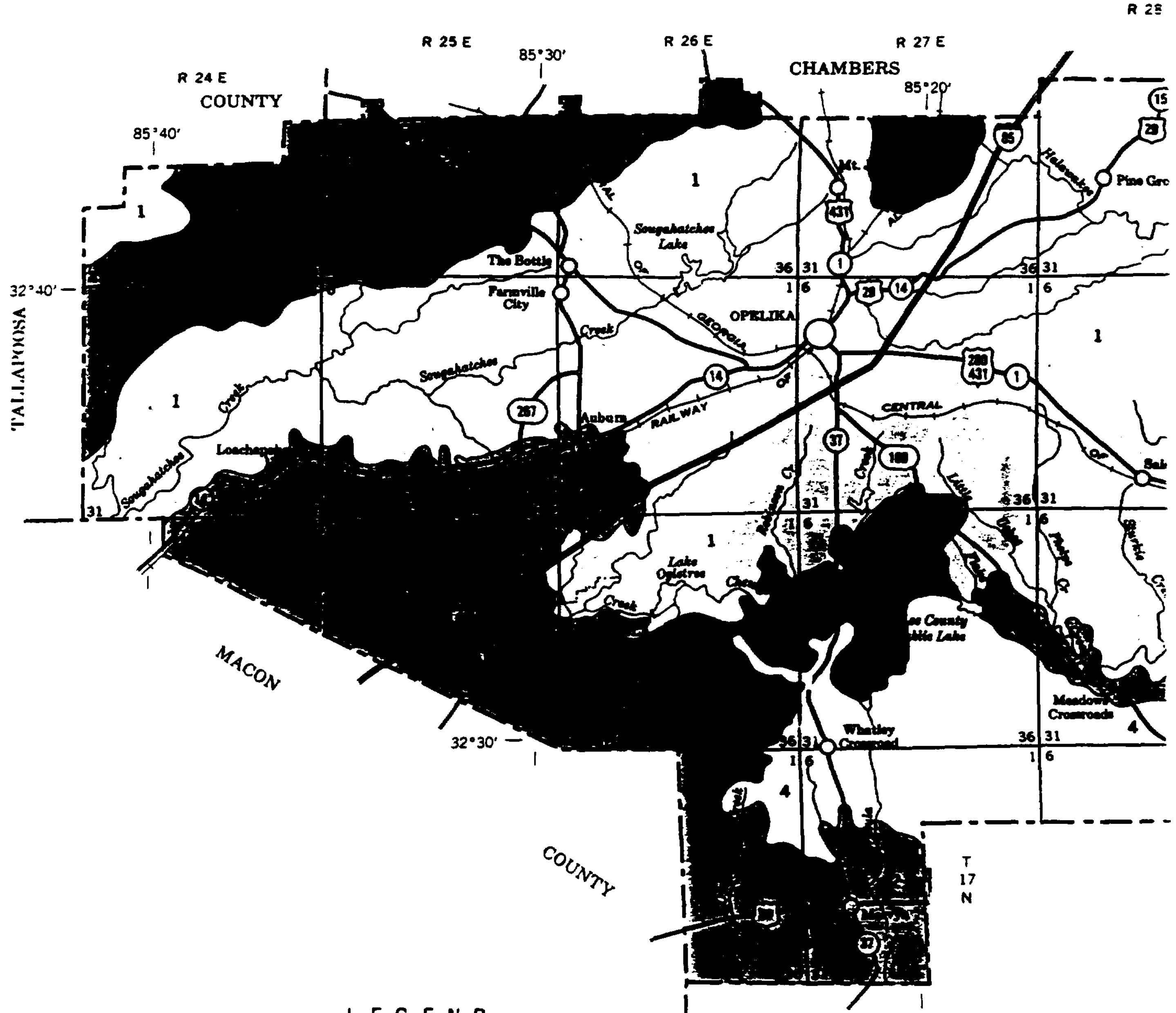
GENERAL SOIL MAP
LEE COUNTY, ALABAMA

N

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 4 8 Km



LEGEND

1	PACOLET–CECIL: Moderately deep and deep, well drained soils that have a loamy surface layer and a dominantly clayey subsoil; formed in residuum of granite, gneiss, and schist of the Piedmont Plateau
2	MARVYN–COWARTS–UCHEE: Deep, well drained and moderately well drained soils that have a sandy surface layer and a loamy and clayey subsoil; formed in marine sediment of the Coastal Plain
	GWINNETT–HIWASSEE: Moderately deep and deep, well drained soils that have a loamy surface layer and a dominantly clayey subsoil; formed in residuum of hornblende, gneiss, and schist of the Piedmont Plateau
4	UCHEE–BLANTON: Deep, well drained and moderately well drained soils that have sandy surface and subsurface layers and a dominantly loamy subsoil; formed in marine sediment of the Coastal Plain

Compiled 1979

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

Reference 22

GEOHYDROLOGY AND SUSCEPTIBILITY OF AQUIFERS TO SURFACE CONTAMINATION IN ALABAMA; AREA 5

by Robert E. Kidd

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 88-4083

Prepared in cooperation with the

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Tuscaloosa, Alabama

1989

DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

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U.S. Geological Survey
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Tuscaloosa, Alabama 35401

Copies of this report can be
purchased from:

U.S. Geological Survey
Books and Open-File Reports
Box 25425
Federal Center, Building 810
Denver, Colorado 80225

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ILLUSTRATIONS

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CONVERSION FACTORS

For use of readers who prefer to use metric (International System) units, conversion factors for inch-pound units used in this report are listed below:

Multiply inch-pound unit	By	To obtain metric unit
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	2.590	square kilometer (km^2)
gallon per minute (gal/min)	0.06308	liter per second (L/s)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m^3/s)

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Mean Sea Datum of 1929."

GEOHYDROLOGY AND SUSCEPTIBILITY OF AQUIFERS
TO SURFACE CONTAMINATION IN ALABAMA; AREA 5

by Robert E. Kidd

ABSTRACT

The U.S. Geological Survey, in cooperation with the Alabama Department of Environmental Management, is conducting a series of geohydrologic studies to delineate recharge areas of the major aquifers in Alabama and their susceptibility to contamination. This report delineates and describes the geohydrology and susceptibility of the aquifers to contamination in Area 5--Chambers, Clay, Cleburne, Coosa, Lee, Randolph, and Tallapoosa Counties.

Little ground water is used for public water supplies in Area 5. Ground-water withdrawals for public supply in 1985 was 0.88 million gallons per day. Most cities and towns that formerly used ground water, presently use surface water. None of the sedimentary rocks or unconsolidated deposits are tapped by public-supply wells, and none of the igneous and metamorphic rocks are considered a major aquifer because of low yields.

Aquifers in the study area are susceptible to surface contamination throughout their entire outcrop area. Areas that are highly faulted and valley areas where ground water is at or near land surface have potential to be highly susceptible to surface contamination.

INTRODUCTION

The Alabama Department of Environmental Management (ADEM) is developing a comprehensive program in Alabama to protect ground water defined by the U.S. Environmental Protection Agency (EPA) as "Class I and II" from surface contamination (U.S. Environmental Protection Agency, 1984). The U.S. Geological Survey, in cooperation with ADEM, is conducting a series of geohydrologic studies in Alabama to delineate recharge areas of the major aquifers and areas susceptible to contamination. This report summarizes these factors for aquifers in Area 5--Chambers, Clay, Cleburne, Coosa, Lee, Randolph, and Tallapoosa, Counties (fig. 1).

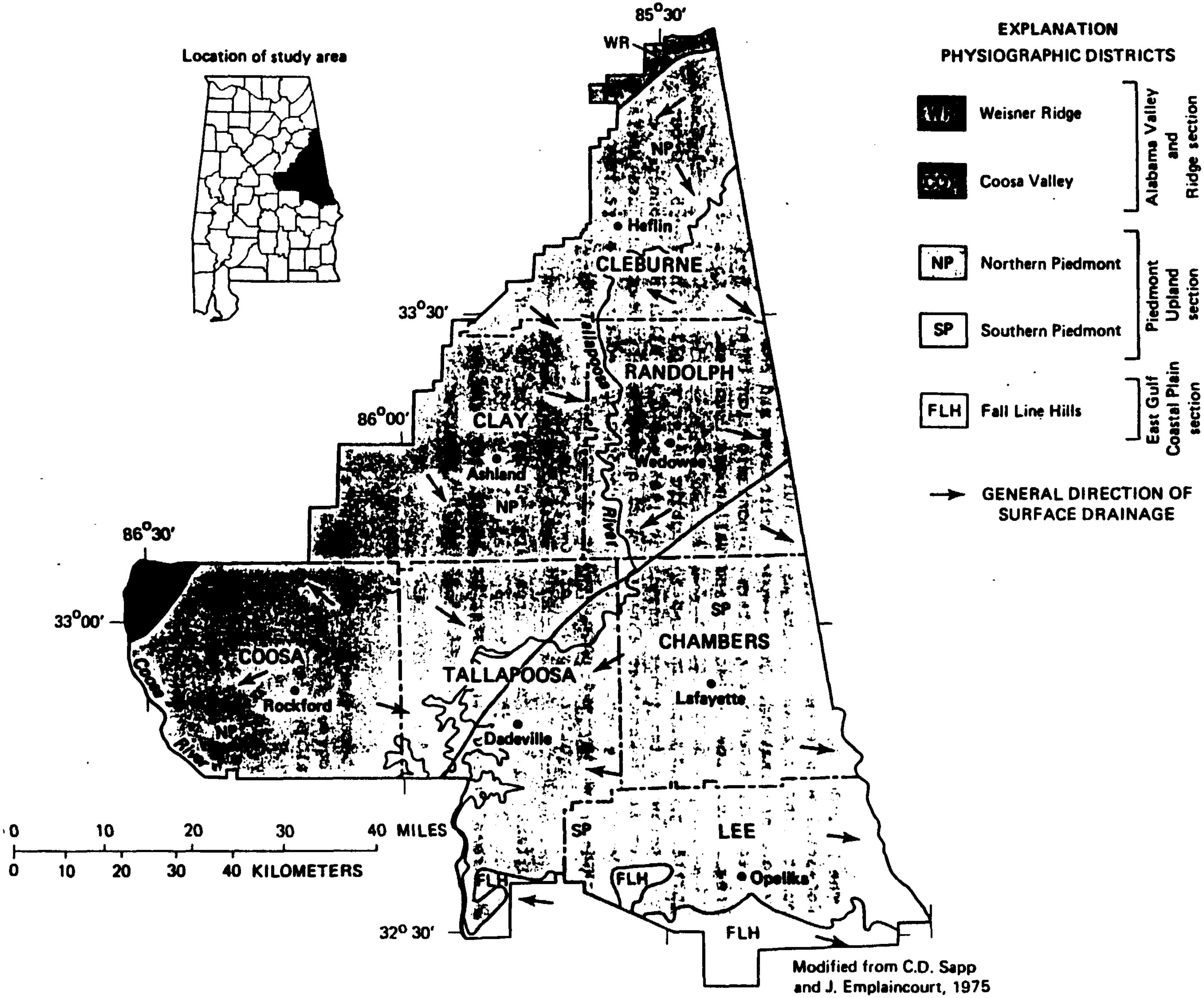


Figure 1.--Physiography and surface drainage of the study area.

Purpose and Scope

The purpose of this report is to describe the geohydrology of the major aquifers and their susceptibility to contamination from the surface. Geologic and hydrologic data compiled as part of previous investigations provided about 75 percent of the data used to evaluate the major aquifers in the area. All wells used for municipal and rural public water supplies were inventoried (table 2). Data on water use were compiled during the well inventory. Areas susceptible to contamination from the surface were delineated partly from geologic maps, topographic maps, and other available data, and partly from field investigation.

Location and Extent of the Area

The study area is in east-central Alabama and comprises an area of about 4,314 square miles (plate 1). The area includes the towns of Alexander City, Ashland, Auburn, Dadeville, Heflin, Lafayette, Lanett, Opelika, Roanoke, Rockford, Wedowee, and numerous other small towns and communities. The total population of the seven-county area was 216,857 in 1982 (Alabama Department of Economic and Community Affairs, 1984). The area is primarily rural.

Physical Features

The study area lies in parts of three physiographic provinces: Valley and Ridge, Piedmont, and Coastal Plain (fig. 1). Northernmost Cleburne County is in the Weisner Ridges district of the Alabama Valley and Ridge section of the Valley and Ridge province. The Weisner Ridges district is characterized by maturely-dissected faulted and folded quartzite mountains separated by narrow carbonate valleys. Altitudes of the valley floors generally are about 800 feet above sea level, and the mountain ridges generally range from 1,300 to 1,500 feet above sea level.

The extreme northwest corner of Coosa County is in the Coosa Valley district of the Alabama Valley and Ridge section of the Valley and Ridge province. The area is underlain by sandstone, shale, limestone, and chert. The Coosa Valley is a mature plain with little surface relief. Altitudes range from 400 to 500 feet above sea level. Surface drainage in both districts is southwestward to the Coosa River (fig. 1).

More than 90 percent of the study area is in the Piedmont Upland section of the Piedmont province. The section has been further divided into the Northern Piedmont Upland district on the northwest and the Southern Piedmont Upland district on the southeast (Sapp and Emplaincourt, 1975). The Northern Piedmont Upland district is characterized by well-dissected upland developed on metamorphosed sedimentary and igneous rocks. The land surface ranges from about 1,100 feet above sea level in north Cleburne County to about 500 feet above sea level in the south near Mitchell Lake. Talladega Mountain forms a prominent northeastward-trending ridge that includes Cheaha Mountain (2,407 feet above sea level), the highest point in Alabama (plate 1). All of Clay County, most of Cleburne, Randolph, and Coosa Counties, most of Tallapoosa County west of the Tallapoosa River, and the northwestern corner of Chambers

County are in the Northern Piedmont Upland district (fig. 1). Surface drainage in the district generally is south to the Tallapoosa River and southwest to the Coosa River (fig. 1).

There is a gradual transition in physiography from the Northern Piedmont Upland district to the Southern Piedmont Upland district. The Southern Piedmont Upland district is characterized by a rolling topography indicative of a dissected peneplain of advanced erosional maturity (Chandler and Lines, 1974). The land surface of the district ranges in altitude from about 500 to 900 feet above sea level and averages about 800 feet above sea level. Most of Chambers and Lee Counties, the southeastern part of Randolph County, and most of Tallapoosa County east of the Tallapoosa River are in this district. Surface drainage in the district generally is southwestward to the Tallapoosa River and southeastward to the Chattahoochee River.

The third physiographic province in the study area is the Coastal Plain. The Fall Line Hills district of the East Gulf Coastal Plain section is characterized by relatively flat to gently rolling uplands and broad, gently sloping valleys. The land surface ranges in altitude from about 350 to 650 feet above sea level and local relief is usually less than 100 feet. Surface drainage is south and southeastward to the Chattahoochee River, and southward and southwestward to the Tallapoosa River. The southernmost part of Lee County is in the Fall Line Hills district.

Previous Geologic and Hydrologic Studies

Henry McCalley studied and mapped the crystalline rocks of Alabama from 1901 to 1904. Adams subdivided the crystalline rocks into informal belts and formal units and these subdivisions are used in this report (Adams and others, 1926). Baker (1957) described the geology and ground water of the Piedmont area. Clarke (1963) reported on residual clays and rock weathering as related to rock types. Joiner and others (1967) and Scarbrough and others (1969) reported on using geophysical methods in prospecting for ground water in the Piedmont area.

Studies on the availability of water in each county in the study area were made by Lines and Scott (1972), Chandler and others (1972), Scott and Lines (1972), Chandler and Lines (1974, 1978a, 1978b), and Lines and Chandler (1975). Much of this report is based on data in these water availability studies. Chandler (1976) discussed the aquifers of the Piedmont and their potential yields.

Acknowledgments

Special appreciation is extended to the waterworks managers in the study area who helped locate public-supply wells and furnished information on well construction and water use.

GEOHYDROLOGY OF THE STUDY AREA

Rocks that crop out in and underlie the study area range in age from Precambrian to Holocene (Eargle, 1955; Scott and Lines, 1972). Metamorphic and igneous rocks of Precambrian to late Paleozoic age crop out in over 90 percent of the study area (fig. 2). Sedimentary rocks of Paleozoic age crop out in the northernmost part of the study area in northern Cleburne County and in the northwestern corner of Coosa County. Unconsolidated sediments of Late Cretaceous age crop out in the southernmost part of the study area in southern Lee County. Quaternary alluvial deposits occur along major streams throughout the study area.

Igneous and Metamorphic Rocks of Precambrian to Late Paleozoic Age

Most of the study area is underlain by igneous and metamorphic rocks, whose age, structure, and stratigraphic relations are not well understood. Therefore, the description of these rocks does not reflect age or stratigraphic position. The units are described in descending order as listed in figure 2. These rocks are part of the continental basement (Clarke, 1963). Adams (1926) originally defined the stratigraphy by grouping the rocks into informal metamorphic belts and formal units. Many of the rocks have been regrouped and renamed during recent mapping by the Geological Survey of Alabama based on structure, mineral, and texture variations. Most of the recent mapping is unpublished at this writing and, for ease of discussion, the divisions given by Adams are used.

There are several major faults and lines of metamorphic discontinuity that cut the metamorphic units described by Adams (Neathery and Tull, 1975). The Talladega and Crooked Creek faults separate the Piedmont from the Valley and Ridge province (plate 1). The Goodwater fault separates the Ashland Mica Schist from the Wedowee Formation in northwestern Coosa County. The Parkdale fault in southwestern Clay County and northeastern Coosa County and the Shady Grove fault in Clay County are transverse faults. The Alexander City and the Omaha faults may be one large fault system that in part separates the Ashland Mica Schist and the Wedowee Formation.

Two major metamorphic discontinuities or faults are the Hollins Line and the Enitachopco Line (Neathery and Tull, 1975). Both structures are interpreted as major structural discontinuities resulting from the movement of one grade of metamorphic rock over another.

Three major fault zones occur in the southern half of the study area. The Brevard and Goat Rock faults dip southeast. The Towaliga fault dips northwest.

The rocks in Area 5 are predominantly clastic sediments that have been altered by several stages of regional metamorphism to slate, schist, phyllite, gneiss, and marble. In some areas, these rocks have been intruded by igneous rocks. Ages ranging from Precambrian to late Paleozoic have been assigned to the rocks (Deininger and others, 1964).

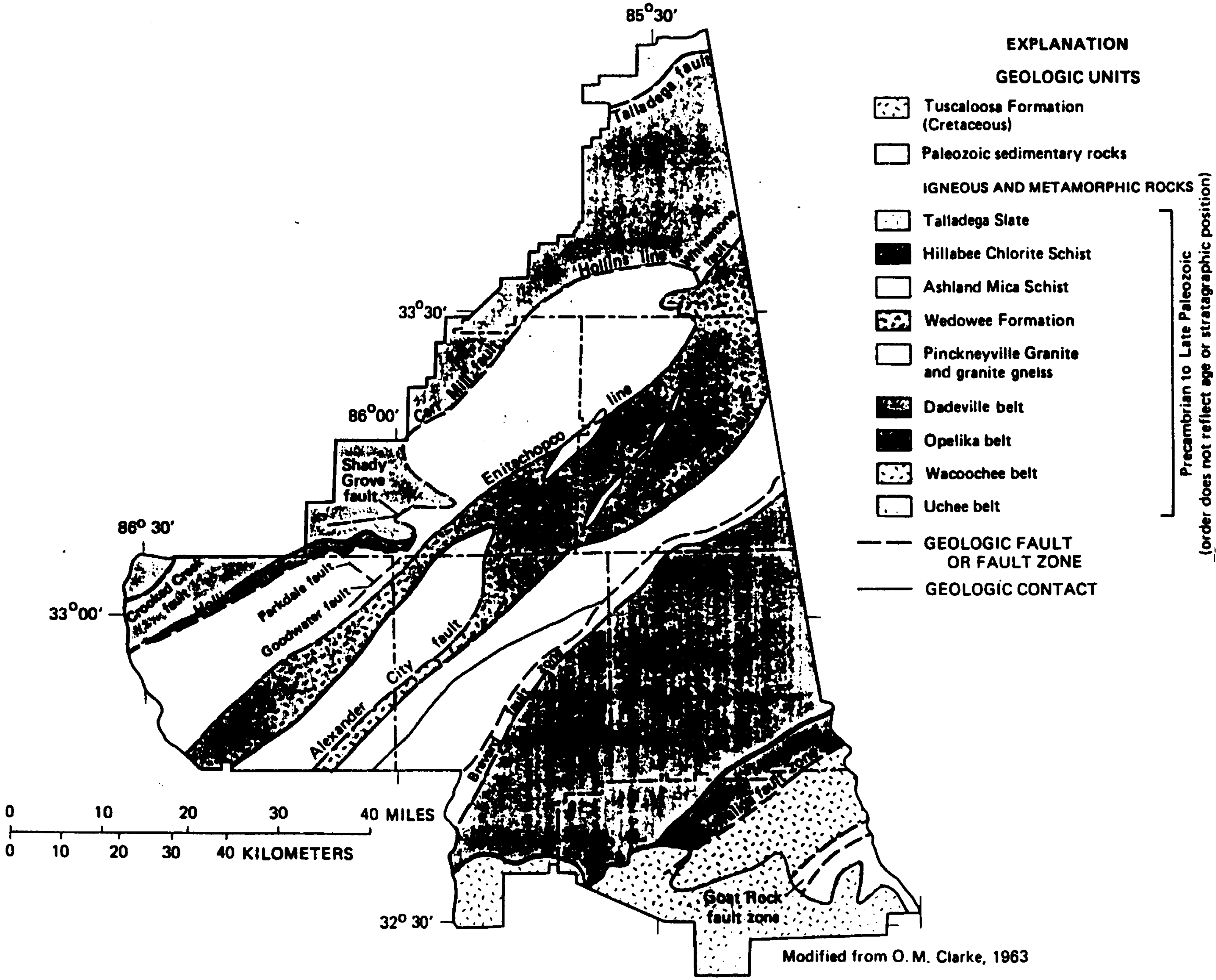


Figure 2.--Generalized geology of the study area.

Erosion has exposed bedrock in some areas, but deep and erratic weathering of the igneous and metamorphic rocks extends 50 to 100 feet below land surface in most of the study area. The term "saprolite" is used to refer to decomposed untransported material that has weathered from the bedrock and which retains some of the characteristics of the original material.

Previous studies indicate that primary porosity in the metamorphic rocks generally is less than 1 percent and saprolite porosities may be from 40 to 50 percent (Nutter and Otten, 1969; Chandler, 1976). The basal saprolites generally are the most productive aquifers. However, they generally are separated by surface drainage divides and are not hydraulically interconnected with adjacent basins.

The average yield from wells that tap the igneous and metamorphic rocks is about 19 gal/min (gallons per minute)(Chandler, 1976). Less than 10 percent yield 50 gal/min or more (table 1). Little ground water is used for public water supplies in Area 5. Most cities and towns that formerly used ground water, presently use surface water. Consequently, none of the rocks in the study area are considered major aquifers.

Talladega Slate

The Talladega Slate crops out between the Talladega and Crooked Creek faults and the Hollins line, and extends from Cleburne County in the northeast through western Clay County to Coosa County in the southwest (fig. 2). This complex of low-rank metamorphosed sediments forms a continuous belt 8 to 22 miles wide that strikes northeastward. The Talladega Slate consists predominantly of slate and phyllite with some marble, dolomite, and quartzite. The phyllites are strongly schistose and consist of about 50 percent quartz with variable amounts of feldspar, chlorite, muscovite, and epidote. Foliations in the rocks generally dip southeastward at angles of 30 to 60 degrees (Chandler and Lines, 1978b). The average thickness of saprolite overlying the slate is from about 20 feet on hilltops and hillsides to about 35 feet in draws and valleys.

Public supply wells completed in the Talladega Slate range from 100 to 540 feet in depth and yield less than 30 gal/min (table 1). Fruithurst in Cleburne County is the only town in the study area to obtain a public water supply from the Talladega (plate 1). Two wells at Fruithurst produce 20 and 25 gal/min from depths of 352 and 350 feet below land surface (table 2).

Hillabee Chlorite Schist

The Hillabee Chlorite Schist crops out southeast of the Talladega Slate (fig. 2). The Hillabee is a sinuous belt of chlorite-epidote-hornblende schist which extends from southeastern Cleburne County southwestward through Clay and Coosa Counties. Part of the outcrop is coincident with the trace of the Hollins line in Cleburne, Clay, and Coosa Counties (Deininger and others, 1964). The Hillabee averages less than one-quarter mile in outcrop width. Locally the strike varies by nearly 90 degrees from its general northeast-southwest direction and the rocks generally dip southeast at about 40 degrees (Prouty, 1923).

The Hillabee has been used as a source of water in the past (Baker, 1957), but presently is not used as a public water-supply source in the study area because of small yields. Well yields are generally less than 10 gal/min.

Ashland Mica Schist

The Ashland Mica Schist crops out in two belts about 4 to 15 miles in width and strikes northeastward across the central part of Area 5 (fig. 2). Foliations generally dip southeastward from 30 to 65 degrees (Chandler and others, 1972).

The rocks that compose the Ashland include muscovite and quartz-muscovite schists with some graphite, hornblende schist and gneiss, chlorite schist, granitic gneiss, and biotite augen gneiss (Deininger and others, 1964). The average thickness of saprolite is about 50 feet.

Public water supplies for the towns of Lineville and Ashland were formerly obtained from the formation (table 2). These towns presently use surface water for their supplies. The town of Wadley currently obtains its water supply from the Ashland Mica Schist.

Public supply wells completed in the Ashland range from 100 to 340 feet in depth and generally yield from 10 to 15 gal/min. However, yields of more than 50 gal/min are obtained from some wells.

Wedowee Formation

The Wedowee Formation crops out in two northeastward trending belts extending from southern Coosa County across northwest Tallapoosa, southeastern Clay, central Randolph Counties, and into southeastern Cleburne County (fig. 2). Foliations in the rocks generally dip southeastward 45 to 90 degrees. The formation is a phyllite with some beds of micaceous quartzite. The phyllite contains finely crystalline graphite as a minor constituent. The rocks of the Wedowee have been partly replaced by granites (Deininger and others, 1964). The phyllite adjacent to the granites have been metamorphosed to quartz-mica schist. Saprolite thickness of 50 feet or more is common on upland draws and on concave slopes adjacent to streams (Lines and Chandler, 1975).

Yields to wells that tap the formation generally are about 15 gal/min. However, yields greater than 50 gal/min were reported. Depth of wells range from about 100 to 350 feet. The Wedowee Formation is the source of water for the towns of Woodland and Wedowee.

Pinckneyville Granite and Granite Gneiss

The Pinckneyville Granite, the largest granitic mass in Alabama, is 6 to 10 miles wide and 40 miles long (Clarke, 1963). The outcrop of the Pinckneyville trends northeast from south-central Coosa County and northwestern Tallapoosa County to the southern part of Clay County. Related granitic intrusions occur along the projection of the formation into Clay and Randolph

Counties (fig. 2). The granite consists of microcline, orthoclase, plagioclase, quartz, and muscovite, with minor amounts of biotite and epidote. Saprolite ranges in thickness from 10 to 50 feet.

Wells completed in the Pinckneyville range from less than 100 to over 500 feet in depth. The town of Rockford formerly obtained water from two wells that produced 15 and 33 gal/min from depths of 237 and 300 feet (table 2). Rockford presently obtains water from Alexander City, which obtains water from surface water sources.

A belt of granitic gneiss crops out about 5 miles southeast of the Pinckneyville Granite. The granitic gneiss extends from southwestern Tallapoosa County northeastward in a narrowing belt into northeast Tallapoosa County. No public water supply wells tap this belt.

Dadeville Belt

The Dadeville belt crops out in southeastern Tallapoosa and northwestern Lee Counties and trends northeast across Chambers County into the southeastern corner of Randolph County (fig. 2). Foliation planes of the rocks generally dip southeastward 30 to 60 degrees (Chandler and Lines, 1974). The Dadeville belt consists primarily of mica gneiss and schist with some hornblende gneiss. The mica gneiss contains scattered feldspathic porphyroblasts and feldspathic bands. The hornblende gneiss may be sills or could be metamorphosed sediments (Deininger and others, 1964). The Dadeville belt contains scattered granitic outcrops. A series of ultramafic rocks have intruded the mica and hornblende gneisses in some areas.

The average thickness of saprolite is about 50 feet. Wells developed in saturated saprolite may yield as much as 50 gal/min, but generally less than 10 gal/min. Well depths generally range from 35 to 500 feet.

The Dadeville belt is tapped by many wells for use at recreation sites, schools, and camps, but is not used as a municipal water supply owing to the small yields (table 2).

Opelika Belt

The Opelika belt crops out immediately to the southeast of the Dadeville belt and is about 5 to 6 miles wide. The rocks extend from near Loachapoka in western Lee County northeast to near Shawmut in eastern Chambers County (fig. 2). These rocks consist primarily of biotite gneiss and augen gneiss with some granite gneiss and migmatites in southeastern Chambers County. Diabase dikes cut across the belt about 2.5 miles northeast of Auburn (Deininger and others, 1964).

Rocks in the Opelika belt do not yield sufficient quantities of water for public supplies, but do supply water to some domestic wells.

Wacoochee Belt

The rocks of the Wacoochee belt crop out southeast of the Opelika belt in Lee County (fig. 2). This belt is about 10 miles wide and trends northeastward. Foliation planes of the metamorphic rocks dip southeastward. These rocks consist predominantly of garnetiferous-biotite schist and quartz-muscovite schist with some granite gneiss, biotite augen gneiss, quartzite, marble and dolomite. The thickness of the saprolite ranges from 10 to 200 feet and averages about 50 feet.

Wells generally yield less than 25 gal/min. One well that taps rocks of the Wacoochee belt yields more than 2,000 gal/min (Scott and Lines, 1972). This well may penetrate either solution cavities in dolomite or large fractures in quartzite. Well depths range from about 150 to 300 feet. The towns of Auburn, Smiths, and Beauregard have wells completed in rocks of the Wacoochee belt. A spring that discharges from the Wacoochee unit is used for an emergency water supply for Opelika. Auburn and Opelika use surface water as their principal source of water supply.

Uchee Belt

The rocks of the Uchee belt crop out in Lee County southeast of the Wacoochee belt (fig. 2). These rocks are predominantly biotite and hornblende gneiss and granite gneiss. The granitic gneiss is commonly mylonitized and may be associated with the Goat Rock fault (Deininger and others, 1964). No public supply wells tap the rocks of the Uchee belt.

Sedimentary Rocks of Paleozoic Age

Paleozoic rocks of Cambrian age crop out northwest of the Talladega fault in northernmost Cleburne County (fig. 2). The Weisner Formation, owing to its hardness and resistance to erosion, forms ridges. The Weisner consists of quartzite, sandstone, conglomerate, and sandy shale. The Shady Dolomite overlies the Weisner Formation and crops out in several narrow bands. The Shady consists of fine-grained medium- to thick-bedded limestone and dolomite. The Weisner and Shady are not tapped by any public-supply wells.

The Newala Limestone of Ordovician age and the Floyd Shale and Parkwood Formation of Mississippian age crop out northwest of the Crooked Creek fault in the extreme northwest corner of Coosa County (plate 1). The Newala consists of micritic limestone and dolomite. The Floyd Shale is dark gray shale with rare interbeds of argillaceous limestone. The Parkwood Formation consists of interbedded shale and fine-grained, argillaceous sandstone. None of these sedimentary rocks are tapped for public water supply in Coosa County.

Sedimentary Deposits of Cretaceous Age

Deposits of the Tuscaloosa Formation of Late Cretaceous age are exposed in the southernmost part of the study area in southern Tallapoosa and Lee Counties (fig. 2). The Tuscaloosa Formation unconformably overlies the pre-Cretaceous igneous and metamorphic rocks. The Tuscaloosa consists of deltaic or nonmarine clay, sand, and gravel. The sediments are poorly sorted and commonly contain weathered feldspar grains of silt size. The Tuscaloosa dips south-southeastward about 30 to 50 feet per mile.

Wells that penetrate sand and gravel beds of the Tuscaloosa Formation generally yield less than 10 gal/min and the formation is not considered a major aquifer in Area 5. The Tuscaloosa Formation is a major aquifer south of the study area and the outcrop in Area 5 is part of the recharge area for the aquifer downdip (plate 1).

Sedimentary Deposits of Quaternary Age

Quaternary alluvial deposits overlie older formations along major streams throughout the study area. These deposits are not shown on the geologic map (fig. 2). The alluvium is irregularly stratified, locally derived fluvial sediments consisting of clay, silt, sand and pebbles with locally abundant cobbles, boulders, and heavy minerals.

The alluvial deposits provide recharge to the underlying igneous and metamorphic rocks. These deposits are relatively unimportant as sources of ground-water supply because of their limited areal extent, and are not tapped by any public-supply well in the study area (Chandler, 1976).

HYDROLOGY OF THE AQUIFERS

The following discussion of the hydrology of the aquifers is limited to the water-bearing igneous and metamorphic rocks. None of the sedimentary rocks or unconsolidated deposits are tapped by public supply wells in the study area. None of the igneous and metamorphic rocks in the study area are considered a major aquifer because of small yields. Surface drainage divides of the igneous and metamorphic rocks generally correspond to the boundaries of aquifers that generally are not hydraulically interconnected. Recharge areas are coincident with outcrop areas of the aquifers. Recharge areas for the aquifers and areas where the aquifers are susceptible to surface contamination are shown on plate 1. Also shown on plate 1 are locations of public water-supply wells. Construction of wells, water levels, and other pertinent well data are given in table 2.

Recharge and Movement of Ground Water

The source of recharge to the aquifers is precipitation, mostly rain supplemented by occasional snow. Average annual precipitation is about 52 inches per year, but a large part runs off during and directly after rainstorms (Chandler, 1976). Most of the remainder is returned to the atmosphere by evaporation and transpiration of trees and other plants; a small part infiltrates to the water table to recharge aquifers. Chandler (1976) estimated that recharge to aquifers in the study area is about 6 inches per year.

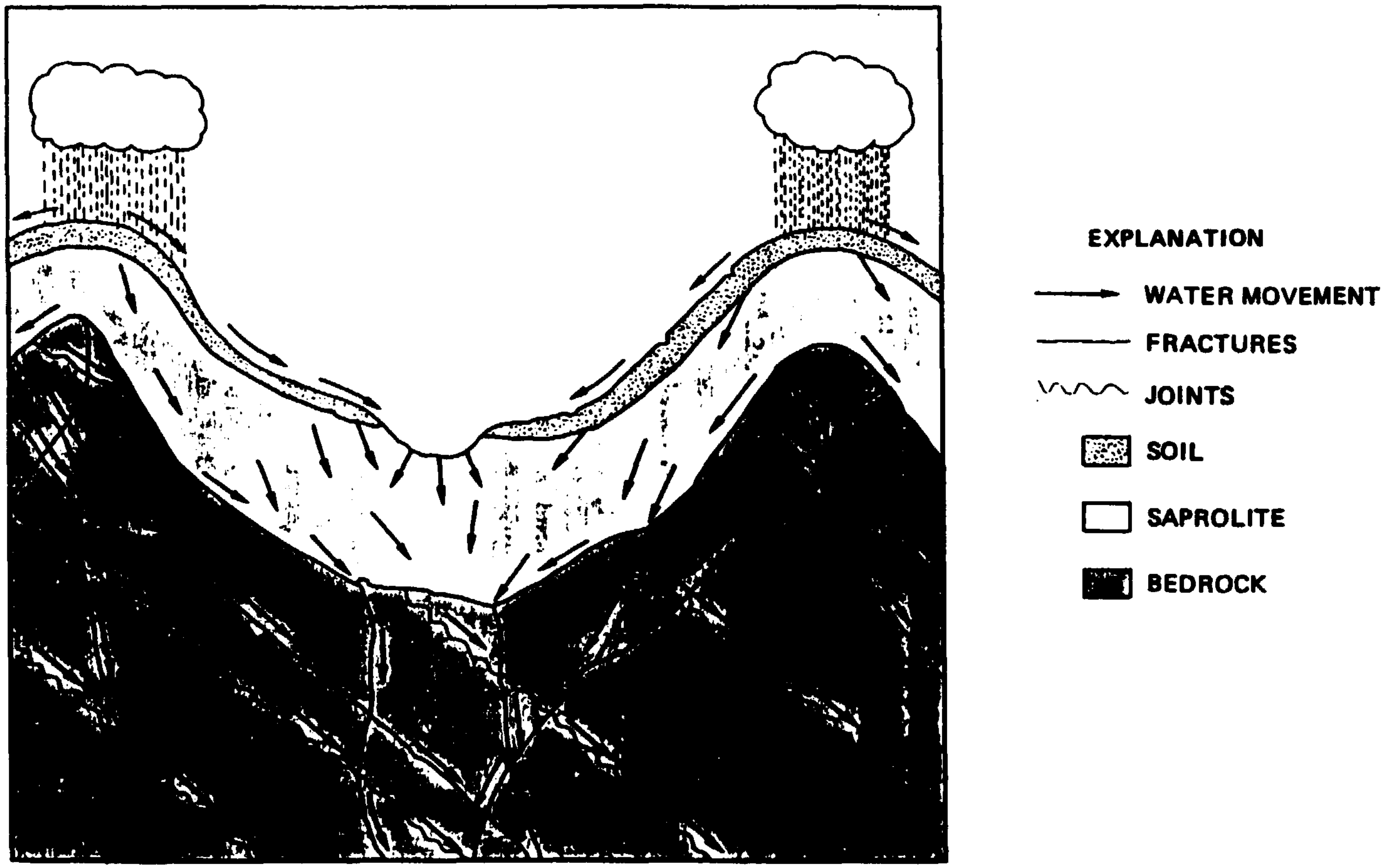
The movement of ground water in the aquifers is controlled by several factors: topography; the character and thickness of the saprolite; and the number, size, and pattern of fractures in crystalline rock that underlie the saprolite. The direction of ground-water movement is controlled mainly by topography. Movement generally is from hilltops and uplands to stream valleys. The water table generally conforms to topography, but has less relief. The water table generally is 30 to 100 feet below land surface on hilltops and hillsides, but is at or near land surface in stream valleys and draws.

The saprolite acts as a sponge absorbing water from rainfall and runoff, feeding it steadily below to fractures in the bedrock. The importance of the saprolite as a ground-water reservoir depends mostly on its thickness. Saprolite generally is thickest in draws, valleys, and flat uplands underlain by marble, schist, or gneiss; and it is generally thinnest on ridges and hilltops underlain by quartzite or granite (Scott and Lines, 1972). Under a given set of conditions, the depth of weathering increases with the solubility of rocks. The carbonate rocks of the Wacoochee belt generally have the thickest saprolite that overlie bedrock.

Fractures in rock generally decrease in size and in number with depth, and interconnecting fractures rarely occur at depths greater than 200 feet (Lines and Scott, 1972). The fractures in the bedrock of the aquifer may be joints, openings along planes of schistosity, or other openings such as fault planes or fault zones. The dip of the schistosity controls the direction of seepage and the degree and depth of weathering. Most fractures in the study area are steeply dipping to vertical and generally have definite alignments. The fractures in the bedrock, enlarged by weathering and solution, are probably the avenues along which the greatest amounts of ground water move in the aquifers.

Figure 3 shows schematically the general ground-water movement in the study area. Rain that seeps into the ground moves downward through the soil. After the soil moisture requirements have been met, the water moves downward to the water table and then laterally to discharge points or down gradient. If the water table is within the saprolite, water moves laterally along the top of bedrock until it intersects fractures and moves deeper or to discharge points. The path from recharge to discharge areas may be direct or circuitous, depending on the pattern of fractures or solution features.

Recharge to the aquifers may also occur from movement of surface water into the aquifers as a result of pumpage. Under natural conditions, ground water in an aquifer discharges to streams and lakes. Withdrawal of water from a well intercepts some of this ground-water discharge. If pumpage of aquifers that are hydraulically connected to streams or lakes reduces the head in the aquifer below the level of the water surface, induced recharge will occur. The amount of water that can be induced into the aquifer depends on the permeability of the streambed, the degree of hydraulic connection between river and aquifer, the transmissivity of the aquifer, and the hydraulic gradient created by the pumped well.



Modified from W. L. Scarbrough and others, 1969

Figure 3.--Schematic diagram showing general occurrence and movement of ground water in crystalline rocks in the Piedmont area.

Natural Discharge and Ground-Water Withdrawals

Discharge from the aquifers occurs as seeps and springs at land surface that provide base flow to streams, and as withdrawals from wells. The small areal extent of aquifers and the limited depth of ground-water circulation result in relatively rapid movement of ground water from areas of recharge to areas of discharge.

Little ground water is used for public water supplies in Area 5. Many cities and towns in the area that formerly used ground water use surface-water sources because of the limited amount of ground water production from wells, and because of water-quality problems associated with ground water in the area.

Ground-water withdrawals in million gallons per day (Mgal/d) for public water systems in the study area in 1985 by county were: Chambers, 0.00; Clay, 0.00; Cleburne, 0.03; Coosa, 0.04; Lee, 0.55; Randolph, 0.25; and Tallapoosa, 0.01. Ground water is also used for domestic, stock, industrial, and irrigation purposes. The total amount of ground water used for public supply in the study area was 0.88 Mgal/d in 1985. The total withdrawals of ground water for all uses in the study area in 1985 were estimated to be about 8.6 Mgal/d (Baker and Mooty, 1987).

Effects of Withdrawals from the Aquifers

Large long-term withdrawals of water from the aquifers may result in the formation of depressions on the potentiometric surfaces of the aquifers. There are no known extensive depressions on the potentiometric surfaces of the aquifers in Area 5. Depressions on the water surfaces in aquifers caused by pumpage could induce recharge by vertical leakage from overlying saturated zones. Recharge could also be induced by pumpage in areas along major rivers where aquifers are hydraulically connected to streams.

SUSCEPTIBILITY OF THE AQUIFERS TO SURFACE CONTAMINATION

The potential for aquifer contamination exists in all of the aquifers in Area 5. Sources of contamination may be point sources, such as leaking waste ponds, or nonpoint sources, such as heavily treated agricultural areas. Areas that have potential for surface contamination are categorized by areas that are susceptible and highly susceptible (plate 1). Some general comments concerning the fate of any contaminants that enter the ground-water system can also be made.

The aquifers in the study area are recharged throughout their outcrop and any contaminants present in the recharge area of an aquifer may enter that aquifer (plate 1). Consequently, the aquifers are susceptible to contamination throughout their entire outcrop area. Susceptibility is least in areas where there are thick soils and saprolite, which serve as natural filters that prevent or retard the entrance of contaminants into the water-bearing rocks.

Certain topographic settings that are highly susceptible to contamination from the surface can generally be described. Examples of this type of setting in the study area include valleys and lowlands where the water table is at or near land surface. These areas are highly susceptible to contamination because of the small vertical distance between the land surface and the aquifer. It is beyond the scope of this report to delineate these areas, however, their presence can be determined through field inspection and 7.5 minute topographic maps.

Areas that are faulted have potential to be highly susceptible to contamination from the surface. Fault zones or faults may be extremely transmissive and, where they crop out, may be sites of increased recharge. Most of the major faults in the study area have been mapped and are shown on plate 1. It is likely, however, that many additional unmapped minor faults are present in the study area.

SUMMARY AND CONCLUSIONS

Metamorphic and igneous rocks crop out in over 90 percent of the study area. Sedimentary rocks crop out in northern Cleburne and northwestern Coosa Counties. Unconsolidated sediments of the Tuscaloosa Formation crop out in southern Lee County. Quaternary age alluvial deposits occur along major streams throughout the study area.

Very little ground water is used for public water supplies in Area 5. None of the sedimentary rocks or unconsolidated deposits are tapped by public supply wells. None of the igneous and metamorphic rocks are considered a major aquifer because of low yields and hydraulic independence. Surface-drainage divides of the igneous and metamorphic rocks generally correspond to separate ground-water reservoirs.

Areas which have potential for surface contamination are categorized into areas that are susceptible and highly susceptible. Aquifers are susceptible to contamination throughout their entire outcrop areas. Areas that are faulted have potential to be highly susceptible. Also, valleys where water levels are at or near land surface are highly susceptible to contamination from the surface.

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Table 1.--Generalized section of geologic units and their water-bearing properties

Geologic unit	Lithology	Water-bearing properties
Quaternary alluvial deposits	Sand, poorly sorted; clay; silt; and gravel	Not tapped by any public-supply well in the study area. Limited areal extent.
Tuscaloosa Formation (Cretaceous)	Poorly sorted clay, sand, and gravel	Generally yields less than 10 gal/min. A major aquifer south of Area 5.
Paleozoic sedimentary rocks	Quartzite, sandstone, conglomerate, shale, limestone, dolomite	Not tapped by any public-supply wells in the study area.
Precambrian to late Paleozoic igneous and metamorphic rocks (order does not reflect age or stratigraphic position)		
Talladega Slate	Slate, phyllite, marble, dolomite	Yields less than 30 gal/min.
Hillabee Chlorite schist	Chlorite-epidote-hornblende schist	Small yields. Not used as a public water-supply source.
Ashland Mica Schist	Muscovite and quartz-muscovite schists	Generally yields 10 to 15 gal/min.
Wedowee Formation	Phyllite, micaceous quartzite	Yields 15 gal/min; yields greater than 50 gal/min reported.
Pinckneyville Granite and granite gneiss	Granite and granite gneiss	Yields 15-30 gal/min. Not used as public water-supply source.
Dadeville belt	Mica gneiss and schist, hornblende gneiss, granite	Generally yields less than 10 gal/min.
Opelika belt	Biotite gneiss, augen gneiss, granite gneiss, migmatites	Insufficient yields for public supplies.
Wacoochee belt	Garnetiferous-biotite schist, quartz-muscovite schist, marble, dolomite	Generally yields less than 25 gal/min. Yield more than 2,000 gal/min reported.
Uchee belt	Biotite and hornblende gneiss and granite gneiss	Not tapped by any public-supply wells.

Table 2.--Records of public water-supply wells in the study area

NOTE: Well numbers correspond to those shown on plate 1.

Geographic coordinate number: Lat (DDMMSS) Long (DDMMSS) sequential number (xx).

Depth of well and water level: Depth of well given in feet; reported water levels are in feet above (-) or below land surface; measured water levels are in feet and tenths.

Well diameter: casing diameter in inches.

Water-bearing unit: TS, Talladega Slate; AMS, Ashland Mica Schist; WF, Wedowee Formation; PG, Pinckneyville Granite and granite gneiss; DB, Dadeville belt; WB, Wacoochee belt.

Altitude of land surface: Altitudes given in feet above sea level, from topographic map or determined by aneroid barometer; altitudes given in feet and tenths determined by instrumental leveling.

Method of lift: N, none; S, submergible; T, turbine; J, jet.

Use of well: N, none; P, public water supply.

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
1	334459085332301	U.S. Forest Service	Graves 1966	235	6	TS	1,180	55	1966	S	P	Coleman Lake well. Casing 6 in.: 0 to 45 ft.
2	334329085361001	U.S. Dept. of Agri-culture	C.D. Pace 1962	104	6	TS	950	--	--	-	P	Pine Glenn well. Casing 6 in.: 0 to 40 ft.
3	334329085360701	U.S. Dept. of Agri-culture	C.D. Pace 1962	100	6	TS	949	--	--	-	P	Pine Glenn well. Casing 6 in.: 0 to 45 ft.
4	334340085261001	Town of Fruit-hurst	Adams-Massey 1968	350	6	TS	1,075	22	1968	S	P	25 gal/min. Casing 6 in.: 0 to 63 ft.
5	334340085255201	Town of Fruit-hurst	Adams-Massey 1968	352	6	TS	1,042	4	1968	S	P	20 gal/min. Casing 6 in.: 0 to 48 ft.
6	333850085355001	Town of Heflin	All Purpose Boring 1968	400	6	TS	926	22	1968	S	N	Well no. 8. 81 gal/min. Casing 6 in.: 0 to 64 ft.
7	333856085351801	Town of Heflin	H.W. Deerman 1934	355	6	TS	984	60	1954	S	N	Well no. 1. 22 gal/min. Casing 6 in.: 0 to 60 ft.
8	333800085351801	Town of Heflin	C.D. Pace 1939	230	8	TS	891	20	1969	S	N	Well no. 2. 60 gal/min. Casing 6 in.: 0 to 60 ft.
9	333856085343601	Town of Heflin	Adams-Massey 1958	223	6	TS	941	2.8	9-26-58	S	N	Well no. 6. 75 gal/min. Casing 6 in.: 0 to 22 ft.
10	333851085341801	Cleburne County School	All Purpose Drilling 1959	180	6	TS	1,015	45	1959	S	N	

Table 2.--Records of public water-supply wells in the study area--Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
11	333845085345601	Town of Heflin	Adams-Massey 1958	228	6	TS	906	22	1958	S	N	Well no. 5. 100 gal/min. Casing 6 in.: 0 to 26 ft.
12	333815085350201	Town of Heflin	C.D. Pace 1935	194	6	TS	965	50	1945	T	N	Well no. 3. 77 gal/min. Casing 6 in.: 0 to 66 ft.
13	333836085350101	Town of Heflin	C.D. Pace 1955	162	8	TS	900	30	1955	T	N	Well no. 4. 65 gal/min. Casing 6 in.: 0 to 70 ft.
14	333825085362201	Town of Heflin	Adams-Massey 1958	328	6	TS	863	6.21	1-27-87	S	N	Well no. 7. 30 gal/min. Casing 6 in.: 0 to 50 ft.
15	333713085354601	Huddle House Rest.	--	--	-	TS	905	--	--	S	P	
16	334009085220601	Alabama Highway Dept.	Alabama Highway Dept. 1978	115	6 4	WF	1,010	34.16	1-28-87	S	P	Supply well for Welcome Center, I-20. Casing 6 in.: 0 to 60 ft; 4 in.: 0 to 65 ft.
17	333549085265601	Cleburne County Vocational School	--	--	6	TS	1,040	55.67	1-27-87	S	P	
18	333413085361601	Tyson Foods	--	300	--	AMS	830	--	--	S	P	River well
19	333407085362001	Tyson Foods	C.D. Pace 1956	308	10 6	AMS	820	--	--	S	P	Well no. 1. Casing 10 in.: 0 to 55 ft.
20	333356085360501	Tyson Foods	Adams-Massey 1969	215	10 6	AMS	825	5	1-05-70	S	P	Thrower's Bottom well. Casing 10 in.: 0 to 21 ft.
21	333146085401801	Boy Scouts of America	--	--	--	AMS	920	--	--	-	P	Camp Sequoah
22	333122085380701	Pleasant Grove School	Mack Otwell 1957	200	6	AMS	901	43.47	1-27-87	S	P	
23	333130085211201	Town of Ranburne	Adams-Massey 1966	200	6	WF	936	21.6	6-02-70	S	N	Well no. 1. 34 gal/min. Casing 6 in.: 0 to 20 ft.

Table 2.--Records of public water-supply wells in the study area--Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
24	333130085211001	Town of Ranburne	Adams-Massey	120	6	WF	934	7	1966	S	N	Well no. 6. 9 gal/min. Casing 6 in.: 0 to 12 ft.
25	332923085483701	Alabama Dept. of Conservation	H.W. Pearson 1970	345	9 5	TS	2,275	62.0	1-19-71	S	P	Well no. 2. State Park. Casing 9 in.: 0 to 40 ft.
26	332928085482501	Alabama Dept. of Conservation	H.W. Pearson 1970	269	9 5	TS	2,150	39.4	10-20-70	S	P	Well no. 1. State Park. Casing 9 in.: 0 to 40 ft.
27	332907085483401	Alabama Dept. of Conservation	Graves 1984	520	--	TS	2,400	--	--	S	P	Well no. 7. State Park.
28	332905085482801	Alabama Dept. of Conservation	Graves 1984	540	--	TS	2,350	--	--	S	P	Well no. 8. State Park.
29	332829085492301	Alabama Dept. of Conservation	--	--	-	TS	1,290	9.72	1-26-87	-	N	Cheaha Lake well.
30	332833085483501	Alabama Dept. of Conservation	H.W. Pearson 1970	383	9 5	TS	2,030	13.7	1-26-71	S	P	Well no. 3. State Park. Casing 9 in.: 0 to 21 ft.
31	332816085490501	Alabama Dept. of Conservation	--	--	-	TS	1,390	--	--	-	N	Well no. 6. State Park.
32	332816085490502	Alabama Dept. of Conservation	--	--	-	TS	1,390	--	--	-	P	Spring - State Park.
33	332705085325501	Folsom School	J.W. Woods 1949	190	6	AMS	1,244	54.8	4-03-70	-	P	School now leased by sewing factory.
34	332134085430901	Barfield School	Graves 1947	140	6	AMS	1,010	36.4	2-18-68	S	P	Casing 6 in.: 0 to 82 ft.
35	332206085292301	Lakeside Service	Ballard	110	6	WF	810	--	--	S	P	
36	332212085241601	Woodland	Ballard and Son 1966	101	6	WF	1,012	6	1966	T	P	62 gal/min. Casing 6 in.: 0 to 25 ft.
37	332127085301801	Aaron Meadows	Ballard	--	--	WF	800	--	--	S	P	Piney Wood Lake Service.

Table 2.—Records of public water-supply wells in the study area—Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
38	331832085451801	Town of Lineville	Carl Pace 1951	150	6	AMS	1,025	43.8	12-13-68	T	N	Casing 6 in.: 0 to 70 ft.
39	331833085451901	Town of Lineville	Carl Pace 1949	110	8	AMS	1,025	47.8	12-13-68	S	N	
40	331837085452501	Town of Lineville	Adams-Massey 1961	200	6	AMS	1,026	4.04	1-30-87	T	N	Casing 6 in.: 0 to 61 ft.
41	331848085291201	Wedowee	Carlisle and Ballard 1956	116	6	WF	862	50	1956	S	P	Well no. 4. 25 gal/min. Casing 6 in.: 0 to 16 ft.
42	331833085291501	Wedowee	Carlisle and Ballard 1956	109	6	WF	852	1.0	3-31-70	S	P	Well no. 5. 45 gal/min. Casing 6 in.: 0 to 21 ft.
43	331827085291501	Wedowee	C.D. Pace 1945	340	8	WF	880	30.60	1-29-87	N	N	Well no. 2. 40 gal/min. Casing 8 in.: 0 to 60 ft.
44	331836085291601	Wedowee	H.W. Pearson 1936	325	6	WF	906	143.5	3-31-70	N	N	Well no. 1. 30 gal/min. Casing 6 in.: 0 to 150 ft.
45	331828085285401	Wedowee	Ballard and Son 1966	93	6	WF	810	19.4	3-31-70	S	P	Well no. 3. 65 gal/min. Casing 6 in.: 0 to 35 ft.
46	331653085245301	Woodland	Ballard and Son 1972	250	6	WF	943	+1.22	1-08-72	S	P	Well no. 2. Casing 6 in.: 0 to 20 ft
47	331651085501801	Town of Ashland	Carl Pace 1954	206	6	AMS	1,063	--	--	T	N	Casing 6 in.: 0 to 55 ft.
48	331651085501401	Town of Ashland	--	--	-	AMS	1,060	--	--	-	N	Swimming pool well.
49	331616085505401	Town of Ashland	Graves 1965	200	8	AMS	1,064	40.3	12-13-68	S	N	Gaither well. Casing 8 in.: 0 to 52 ft.
50	331607085505701	Town of Ashland	Graves 1970	220	8	AMS	1,060	16	7-13-70	S	N	Gaither well. Casing 8 in.: 0 to 90 ft.
51	331551085500301	Town of Ashland	Carl Pace 1947	215	8	AMS	1,049	15	1968	S	N	Tate well. Casing 8 in.: 0 to 71 ft.

Table 2.--Records of public water-supply wells in the study area--Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
52	331622085493201	Town of Ashland	Carl Pace 1960	302	8	AMS	1,068	19.0	10-06-69	T	N	Casing 8 in.: 0 to 92 ft.
53	331601085492401	Town of Ashland	Carl Pace 1959	255	8	AMS	1,030	2.64	1-29-87	N	N	Curlee well. Casing 8 in.: 0 to 39 ft.
54	331542085494801	Town of Ashland	--	--	-	AMS	1,110	--	--	-	N	Noland well.
55	331103085444001	Mellow Valley High School	--	--	6	WF	935	6.48	1-29-87	S	P	
56	330722085343501	Wadley	Graves 1968	160	6	AMS	654	3.5	3-31-70	N	P	Well no. 3. 51 gal/min. Casing 6 in.: 0 to 48 ft.
57	330713085341001	Wadley	Ballard and Son 1955	100	6	AMS	642	25.5	3-31-70	N	P	Well no. 2. 35 gal/min. Casing 6 in.: 0 to 60 ft.
58	330339085560301	Hackneyville High School	Carlisle and Ballard 1954	100	6	PG	702	30	1954	J	N	Casing 6 in.: 0 to 95 ft.
59	330338085560301	Hackneyville High School	Carlisle and Ballard 1954	155	6	PG	698	25.4	12-04-69	J	N	Casing 6 in.: 0 to 120 ft.
60	330110086184801	Weogufka High School	Graves 1947	120	6	TS	668	25	11-12-47	S	N	
61	330110086185001	Weogufka High School	Coleman Supply 1966	219	6	TS	668	--	--	S	N	
62	330005086120801	Coosa County Vocational Center	Graves	215	6	AMS	770	--	--	S	P	Well no. 1.
63	330200085472001	Newsite	Ballard and Son 1967	206	6	WF	727	7.2	3-12-68	S	N	24 gal/min.
64	330200085472002	Newsite	Ballard and Son 1967	100	6	WF	723	8.3	1-30-87	S	N	20 gal/min. Casing 6 in.: 0 to 30 ft.
65	330312085291701	Chambers County High School	Virginia Well and Supply 1951	--	9 6	DB	667	21.1	6-27-69	S	P	

Table 2.—Records of public water-supply wells in the study area—Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
66	325842085442401	U.S. Dept. of the Interior	Adams-Massey 1962	110	6	AMS	540	17.93	1-30-87	-	P	Horseshoe Bend National Park.
67	330042085205701	Five Points Elem. School	Carlisle and Ballard 1955	241	9 6	DB	878	38.14	2-03-87	S	P	
68	330101085203501	Five Points High School	Adams-Massey 1951	350	9 6	DB	860	75.70	2-03-87	S	P	
69	325450086124501	Avondale Mills	Graves 1965	371	6	AMS	779	7.20	1-26-87	S	N	Well no. 1. Casing 6 in.: 0 to 76 ft.
70	325449086123201	Avondale Mills	Graves 1965	250	6	AMS	805	62.3	7-03-68	N	N	Well no. 2. Casing 6 in.: 0 to 61 ft.
71	325449086121801	Avondale Mills	Graves 1965	340	6	AMS	776	32	7-03-68	N	N	Well no. 3. Casing 6 in.: 0 to 68 ft.
72	325449086121501	Avondale Mills	Graves 1966	160	8	AMS	753	23.5	7-03-68	N	N	Well no. 4. Casing 8 in.: 0 to 46 ft.
73	325448086121201	Avondale Mills	Graves 1966	310	6	AMS	746	34.9	7-03-68	S	N	Well no. 5. Casing 6 in.: 0 to 29 ft.
74	325450086121001	Avondale Mills	Graves 1972	340	8	AMS	780	—	—	S	P	Well no. 6.
75	325448086120801	Avondale Mills	Graves 1972	—	6	AMS	760	—	—	S	N	Well no. 7.
76	325446086120501	Avondale Mills	Graves 1972	—	6	AMS	740	—	—	S	P	Well no. 8.
77	325355086122001	Town of Rockford	Graves	—	6	PG	780	9.3	1-26-87	S	N	Well no. 3.
78	325323086131801	Town of Rockford	Coleman Supply 1960	300	6	PG	728	24.5	4-25-85	T	P	Well no. 1. 33 gal/min. Casing 6 in.: 0 to 39 ft.
79	325320086132001	Town of Rockford	C.D. Pace 1941	237	8	PG	718	35.6	7-27-66	T	P	Well no. 2. 15 gal/min. Casing 8 in.: 0 to 30 ft.
80	325535085510401	AASCA Camp	Ballard 1976	200	6	AMS	500	9.50	1-30-87	S	P	Casing 6 in.: 0 to 75 ft.

Table 2.--Records of public water-supply wells in the study area--Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
81	330109085134001	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	700	44.8	7-19-73	S	P	
82	330100085130101	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	680	16.0	6-18-73	S	P	
83	330006085135501	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	660	43.1	7-19-73	S	P	
84	325951085140601	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	--	DB	645	--	--	P	P	Veasey Creek.
85	325947085134801	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	--	DB	650	--	--	P	P	Veasey Creek.
86	325946085135501	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	670	--	--	S	P	Veasey Creek.
87	325930085123301	Mrs. Harold Knight	--	120	10 6	DB	665	30.26	2-04-87	S	P	Rocky Point Camp Ground.
88	325855085123501	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	650	15.2	7-13-73	S	P	Amity Park.
89	325833085131401	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	645	6.6	6-28-73	S	P	Amity Park.
90	325836085125001	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	680	43.5	7-11-73	S	P	Amity Park.
91	325849085123401	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	-	DB	665	33.9	6-27-83	-	P	Amity Park.
92	325825085123001	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	665	73.8	6-26-73	S	P	Amity Park.
93	325724085130501	U.S. Corps of Engineers	--	--	-	DB	680	--	--	S	P	Burnt Village Camp Ground well.

Table 2.--Records of public water-supply wells in the study area--Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
94	325716085123501	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	8	DB	650	14.7	8-27-73	S	P	Rocky Point.
95	325702085125001	U.S. Corps of Engineers	--	--	--	DB	630	12.78	2-03-87	S	P	Burnt Village Marina well.
96	325611085121201	U.S. Corps of Engineers	Dixie Well Drilling 1972-73	--	--	DB	655	25.5	7-13-73	-	P	West Over-look well.
97	325135085571901	Lake o' the Hill Trailer Park	--	--	--	AMS	600	--	--	-	N	
98	325206085544801	Piney Woods Marina Restaurant	--	--	--	AMS	500	--	--	-	P	
99	325206085544802	Piney Woods Marina Restaurant	--	--	--	AMS	500	--	--	-	P	
100	325128085554401	Wind Creek State Park	Ballard and Son 1960	150	6	AMS	506	41	1968	S	N	L-5. Casing 6 in.: 0 to 120 ft.
101	325126085554201	Wind Creek State Park	Ballard and Son 1960	130	6	AMS	506	11.79	2-02-87	S	N	L-6. Casing 6 in.: 0 to 76 ft.
102	325400085241501	Town of Lafayette	-- 1911	275	7	DB	815	20.85	2-03-87	-	N	
103	324730085533501	Pleasure Point Park	Graves 1966	200	6	PG	521	30	1966	S	P	N-2. Casing 6 in.: 0 to 36 ft.
104	324730085533502	Pleasure Point Park	Ballard and Son 1967	75	6	PG	490	12	1967	-	P	N-3.
105	325011085452701	Town of Dadeville	H.W. Pearson 1943	350	6	DB	724	33.04	11-01-82	N	N	94 gal/min. Casing 6 in.: 0 to 78 ft.
106	324922085444301	Town of Dadeville	H.W. Pearson 1949	225	8	DB	553	15	1949	T	N	65 gal/min. Casing 8 in.: 0 to 40 ft.

Table 2.--Records of public water-supply wells in the study area--Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (+) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
107	325027085312901	Plainview Headstart School	Carlisle and Ballard 1955	77	6	DB	749	19.77	2-03-87	S	P	
108	324553085524001	Camp Alamisco	Champion Well Drilling 1984	539	6	PG	570	79.50	2-02-87	S	P	Alabama Geological Survey semi-annual well. Casing 6 in.: 0 to 80 ft.
109	324633085493201	Maxwell Air Force Base	Ballard and Son 1968	98	6	DB	500	31.37	2-02-87	-	-	Base recreational area. 40 gal/min. Casing 6 in.: 0 to 82 ft.
110	324744085391201	Camp Hill	Virginia Well and Supply 1957	202	6	DB	628	20	1957	N	N	42 gal/min. Casing 6 in.: 0 to 73 ft.
111	324805085382401	Camp Hill	Virginia Well and Supply 1952	500	8	DB	632	+1	2-05-70	S	N	6 gal/min. Casing 8 in.: 0 to 50 ft.
112	324733085184001	Cusseta Headstart School	Ballard and Son 1957	123	6	DB	664	56.26	2-03-87	S	P	
113	324252085510802	Bama Park	Ballard and Son 1960	35	6	DB	503	12.4	11-07-69	J	P	
114	324252085510801	Bama Park	Graves 1968	203	6	DB	525	--	--	S	P	
115	324156085405701	Sheriffs Assoc. of Ala.	Graves 1973	123	6	DB	740	--	--	S	P	Girls Ranch.
116	323500085274801	Town of Auburn	--	140	-	WB	610	165	1965	T	N	Not used for drinking.
117	323510085192001	Town of Opelika	--	--	--	WB	590	--	--	F	P	Spring, back up source.
118	323342085222501	Beauregard Water Works	--	165	12 8	WB	--	16	1981	T	N	Well no. 3. Casing 12 in.: 0 to 82 ft; 8 in.: 0 to 124 ft.
119	323341085222401	Beauregard Water Works	--	173	8	WB	--	16.75	1975	S	P	Well no. 1. Casing 8 in.: 0 to 30 ft.
120	323259085250801	Beauregard Water Works	--	148	12	WB	--	25.25	1980	T	P	Well no. 2. Casing 12 in.: 0 to 108 ft.

Table 2.--Records of public water-supply wells in the study area--Continued

Well number	Geographic coordinate number	Well owner	Driller and year drilled	Well depth (feet)	Well diam. (inches)	Water bearing unit	Altitude of land surface	Water level above (-) or below Land Surface Datum	Date of measurement	Method of lift	Use of well	Remarks
121	322940085040701	Smiths Water Authority	Ballard and Son 1973	252	8	WB	345	--	--	S	P	Ennis well.
122	322946085031901	Smiths Water Authority	Robinson	350	6	WB	360	--	--	S	P	Ross well. Smiths Water Authority is a Lee County Water Authority, but this well is in Russell County.
123	322942085031601	Smiths Water Authority	Robinson	350	6	WB	361	265.4	2-04-86	N	N	Observation well near Ross well.
124	322617085243501	Auburn Exp. Station	Bozeman and Son 1966	157	6 4	WB	480	57.83	5-00-85			

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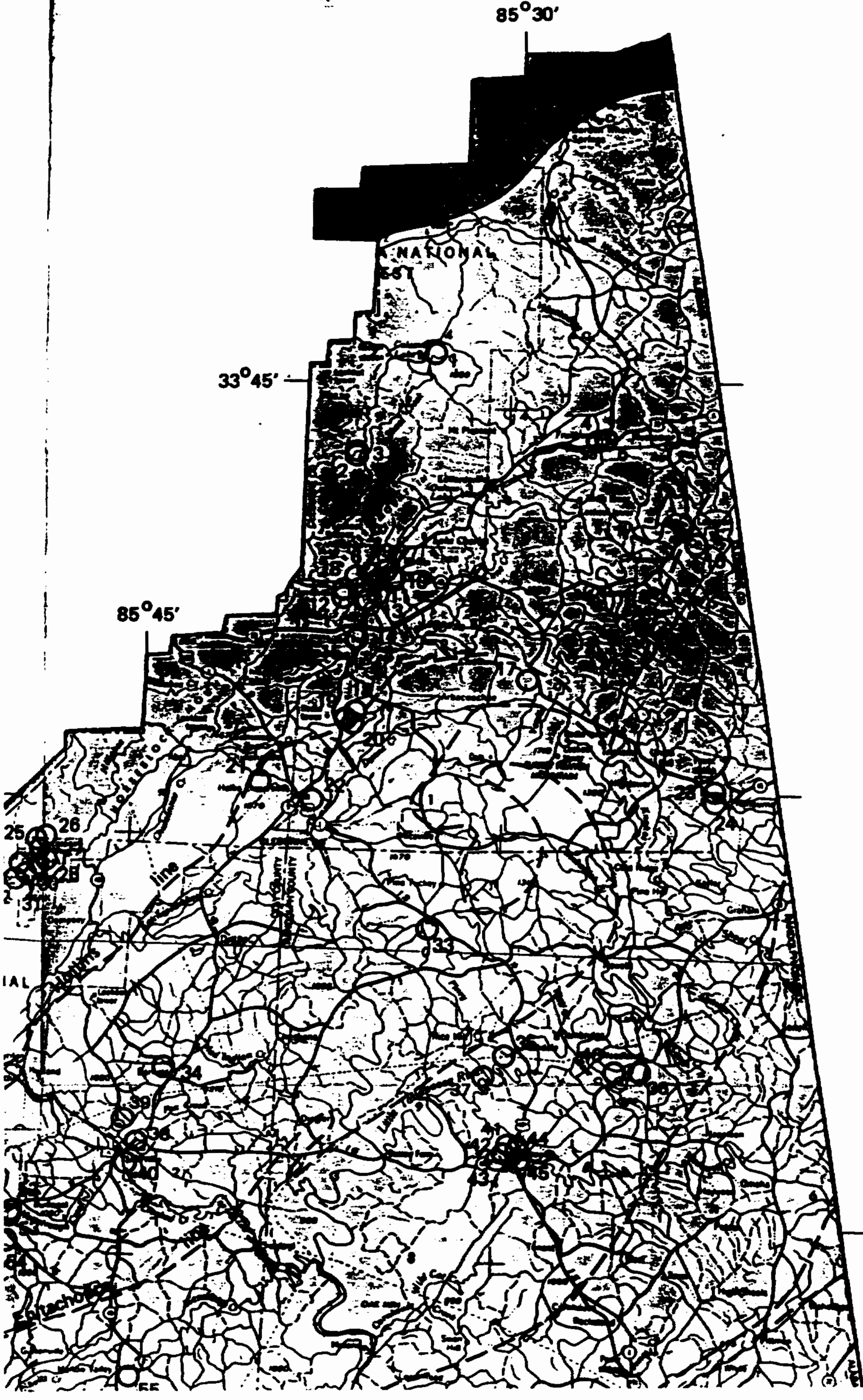
WATER-RESOURCES INVESTIGATIONS
REPORT 88-4083 PLATE 1



DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

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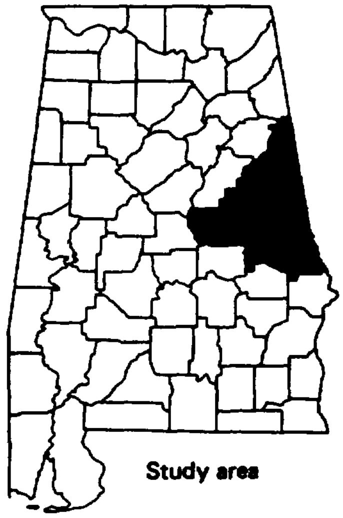


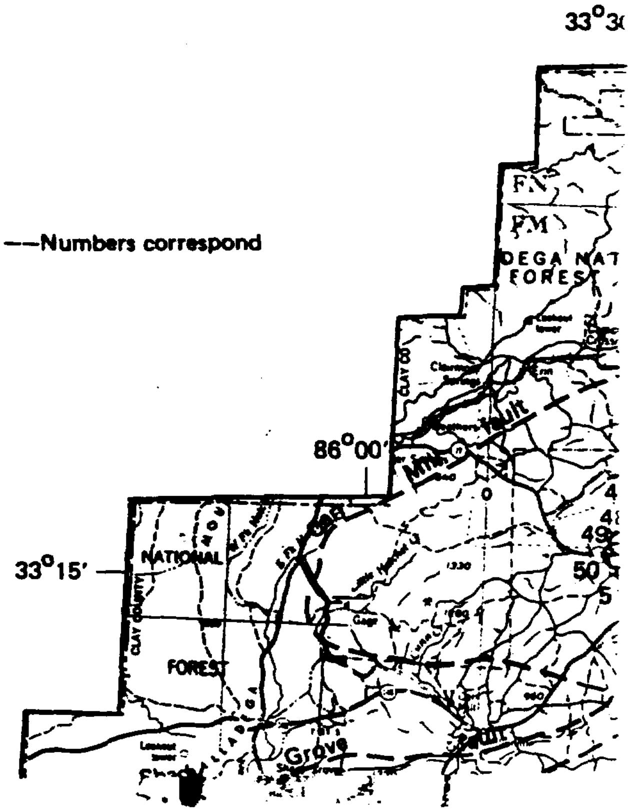
EXPLANATION

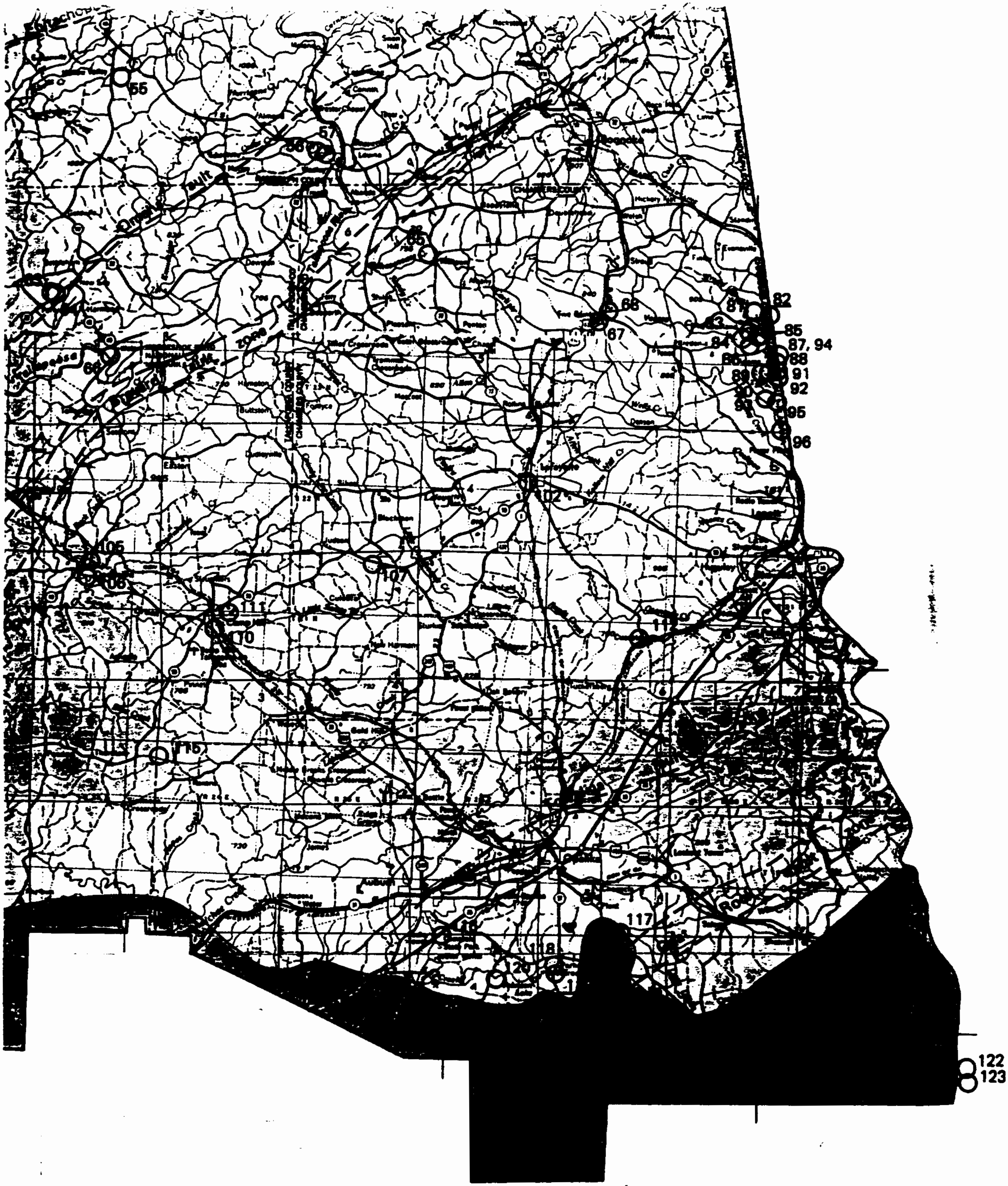
RECHARGE AREAS AND AREAS SUSCEPTIBLE TO SURFACE CONTAMINATION

- Sedimentary (Paleozoic) aquifer
- Igneous and metamorphic aquifer
- Tuscaloosa aquifer

O 33 PUBLIC WATER–SUPPLY WELL AND NUMBER—Numbers correspond to those given in table 2

— — GEOLOGIC FAULT OR FAULT ZONE





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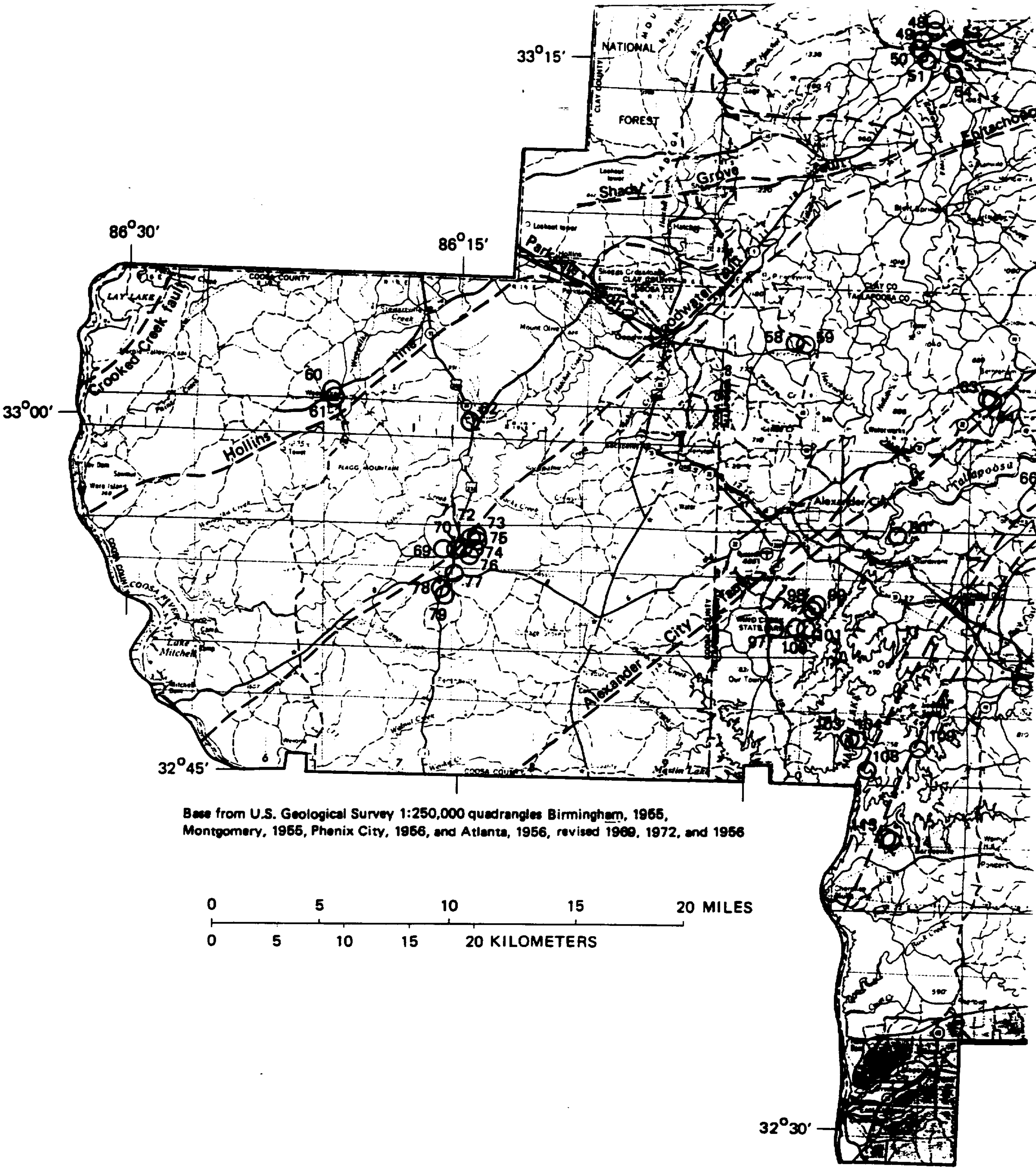
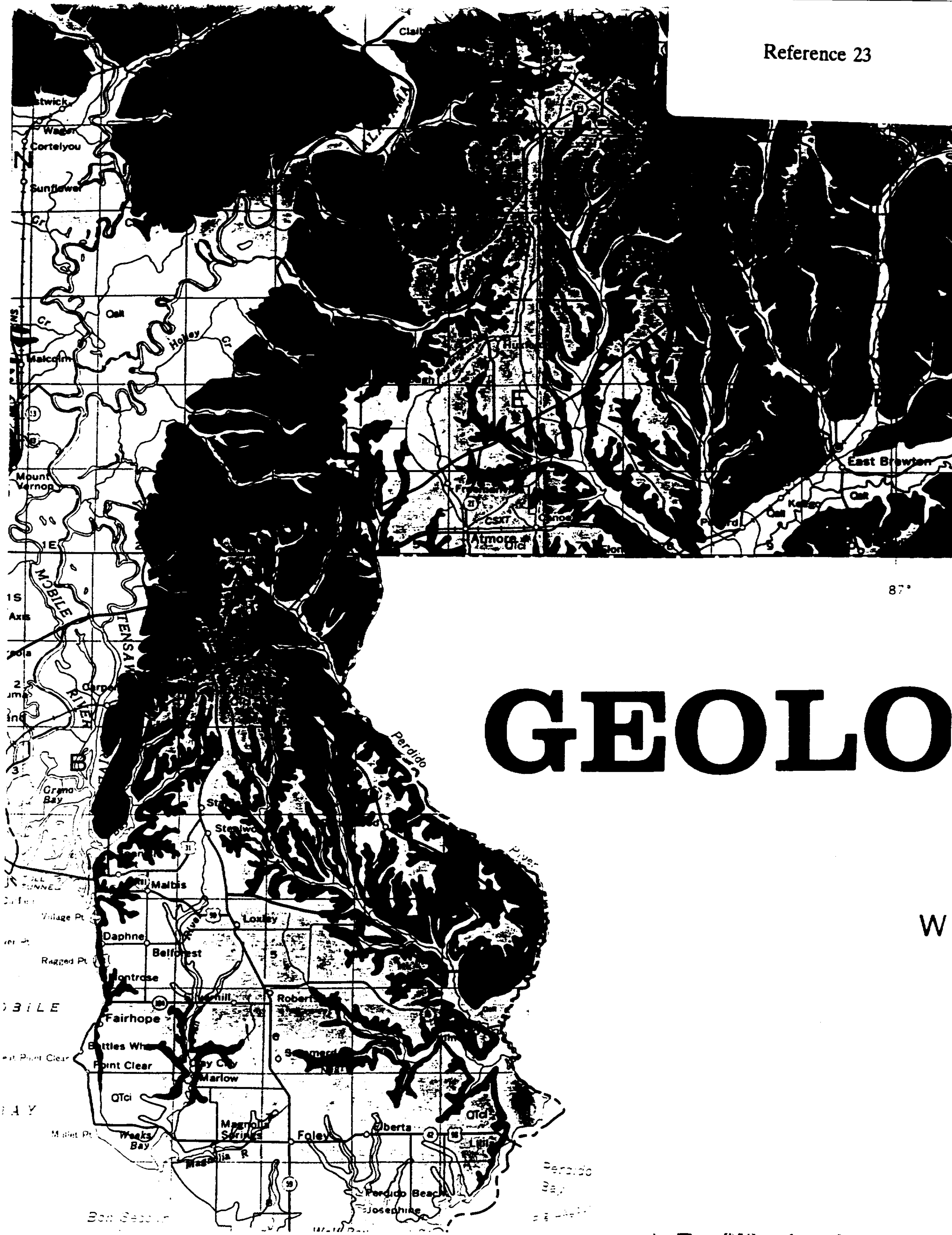


Base from U.S. Geological Survey 1:250,000 quadrangles Birmingham, 1955, Montgomery, 1955, Phenix City, 1956, and Atlanta, 1956, revised 1969, 1972, and 1956

Reference 23



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Ernest A. Mancini State Geologist and Oil and Gas Supervisor

GIC MAP OF A

1989

COMPILED BY:

ward Osborne, Michael W. Szabo, Charles W. Copeland, Jr., and Thorntc

PROJECT DIRECTOR
CHARLES W. COPELAND, JR.

Scale 1:500,000
1 inch equals approximately 8 miles

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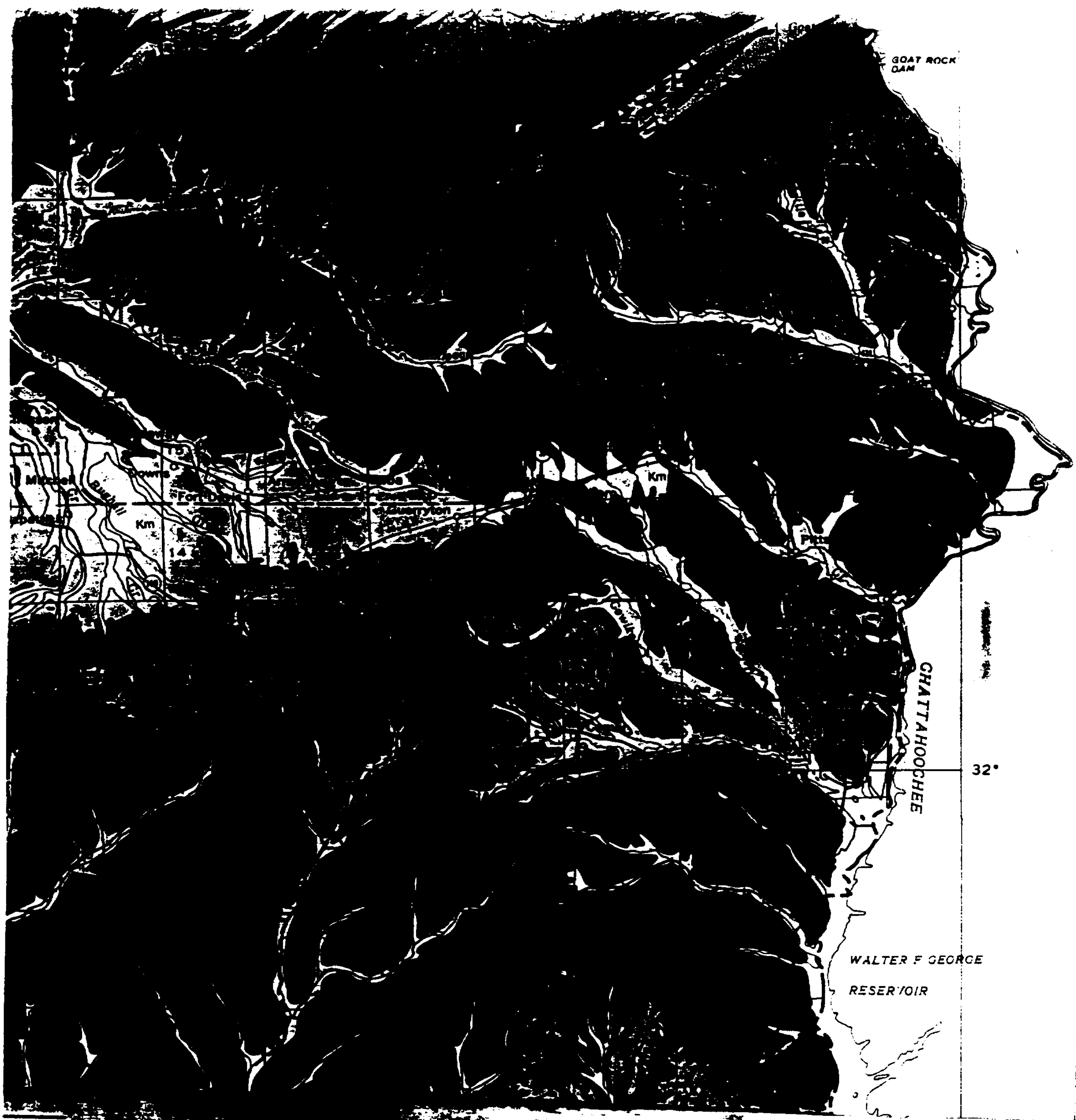
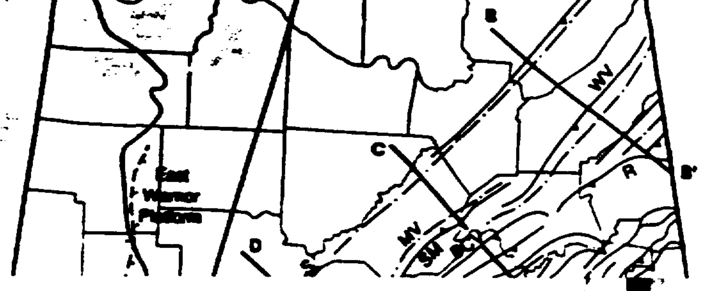


MAJOR STRUCTURAL FEATURES



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XPLANATION

'errace deposits
uartz sand containing clay lenses and gravel in places. Gravel composed of nd assorted metamorphic and igneous rock fragments in streams near the 'alley and Ridge province gravel composed of angular to subrounded chert, s. Coastal deposits include fine to medium quartz sand with shell fragments s along Gulf beaches and fine to medium quartz sand, silt, clay, peat, mud and d, Little Lagoon, bays, lakes, streams, and estuaries.

of poorly sorted sand, ferruginous sand, silt, clay, and gravelly sand. Sand fine to very coarse poorly sorted quartz grains; gravel composed of quartz, s.

AL PLAIN PROVINCE

mottled locally in

Residuum
White to moderate-reddish-orange locally mottled sandy clay and residual clay with scattered layers of gravelly medium to coarse sand, fossiliferous chert and limestone boulders, and limonitic sand masses. Derived from solution and collapse of limestone in the Jackson Group and Oligocene Series and the slumping of Pliocene and Miocene sediments.

thin layers of to coarse sand

ded glauconitic r part. Near the o pillow-shaped tchehgbee were Member

with fine sand; fine quartz sand

SYSTEM	SERIES	GROUP
Cretaceous	Upper	Selma
		Tuscaloosa

Selma Group

Prairie Bluff Chalk
Very light-gray to light-bluish-gray firm sandy, fossiliferous brittle chalk and grayish-black silty sandy calcareous glauconitic, fossiliferous clay; semi-indurated beds of sandy, clayey limestone are present in some exposures. Absent locally in parts of Marengo, Dallas and Wilcox Counties where overlapped by the Clayton Formation or eroded. The Prairie Bluff thins eastward from southwestern Lowndes County to northern Pike County where it interfingers with the Providence Sand.

Providence Sand
Upper part consists of cross-bedded fine to coarse sand and white, dark-gray and pale-red-purple mottled clay containing lignite, sand, and kaolin; lower part consists of dark-gray laminated to thin-bedded silty clay and abundantly micaceous, carbonaceous, fossiliferous very fine to fine sand. The Providence Sand extends eastward from southeastern Lowndes County into Georgia.

Ripley Formation
Light-gray to pale-olive massive, micaceous, glauconitic, fossiliferous fine sand; sandy calcareous clay; and thin indurated beds of fossiliferous sandstone

Kd **Demopolis Chalk**
Light-gray to medium-light-gray compact, brittle chalk overlain by abundantly fossiliferous chalky marl, very clayey chalk, and calcareous clay (Bluffport Marl Member). In south-central Montgomery County the Demopolis is split into two eastward-extending tongues by a westward-extending tongue of the Cusseta Sand Member of the Ripley Formation. The lower tongue is pale-olive to yellowish-gray silty to finely sandy, micaceous, fossiliferous chalk that eastward becomes more sandy and merges with the Cusseta in central Bullock County. The upper tongue is yellowish-gray clayey, very finely sandy, micaceous chalk that merges with the Ripley in southeastern Montgomery County

Krc **Cusseta Sand Member of the Ripley Formation**
Cross-bedded, medium to coarse sand; glauconitic, fossiliferous fine sand; and dark-gray fossiliferous, micaceous, carbonaceous clay. The member occurs at the base of the Ripley Formation and extends from Georgia westward into Montgomery County where it merges with the Demopolis Chalk.

Km **Mooreville Chalk**
Yellowish-gray to olive-gray compact fossiliferous clayey chalk and chalky marl. The unconformable contact at the base is characterized by a bed of glauconitic, chalky sand containing phosphate pellets and molds of fossils. The Arcola Limestone Member at the top consists of two to four beds of light-gray brittle, dense, fossiliferous limestone separated by beds of light-gray to pale-olive calcareous clay.

Blufftown Formation
The Blufftown extends from the Chattahoochee River Valley westward into central Russell County where it is divided into two westward-extending tongues by an eastward-extending tongue of the Mooreville Chalk. In the Chattahoochee River Valley the Blufftown is mainly glauconitic calcareous fine sand, micaceous clay and marl, fossiliferous clay, gray calcareous fossiliferous sandstone, and carbonaceous clay and silt. To the west the lower tongue of the Blufftown is gravelly sand, glauconitic sand, calcareous clay, and sandy clay and merges with the lower part of the Mooreville Chalk in southwestern Macon County. The upper tongue is mainly calcareous sandy clay and micaceous silty fine sand with thin layers of limestone and sandstone. The upper tongue merges with the Mooreville Chalk and the lower part of the Demopolis Chalk in western Bullock County.

Ke **Eutaw Formation**
Light-greenish-gray to yellowish-gray cross-bedded, well-sorted, micaceous, fine to medium quartz sand that is fossiliferous and glauconitic in part and contains beds of greenish-gray micaceous, silty clay and medium-dark-gray carbonaceous clay. Light-gray glauconitic fossiliferous sand, thin beds of sandstone, and massive accumulations of fossil oyster shells occur locally in the upper part of the formation in western Alabama (Tombigbee Sand Member). In eastern Alabama thin- to thick-bedded accumulations of the fossil oyster *Ostrea cretacea* Mo... occur throughout much of the formation.

Tuscaloosa Group

Gordo Formation
Massive beds of cross-bedded sand, gravelly sand, and lenticular beds of locally carbonaceous partly mottled moderate-red and pale-red-purple clay; lower part is predominantly a gravelly sand consisting chiefly of chert and quartz pebbles. Not mapped east of the Tallapoosa River.

Coker Formation
Light-colored micaceous very fine to medium sand, cross-bedded sand, varicolored micaceous clay, and a few thin gravel beds containing quartz and chert pebbles. Beds of thinly laminated finely glauconitic very fine to fine sand, silt and dark-gray carbonaceous clay (Eoline Member) occur locally in the lower part in western Alabama. Locally quartz and chert gravels at the base of the formation range in size from very fine pebbles to large cobbles. In southeastern Elmore County the formation ... sediments consisting of

Tuscaloosa Group undifferentiated
Light-gray to moderate-reddish-or... clayey, gravelly fine to very coarse massive mottled sandy clay; local wood leaf beds; and thin beds of indu... sandstone. Gravels consist mainly of ... and quartzite and range in size from ... pebbles to large cobbles. Mapped east ... Tallapoosa River.

MAP EXPLANATION

Quaternary System

Holocene Series

Qal

Alluvial, coastal and low terrace deposits

Varicolored fine to coarse quartz sand containing clay lenses and gravel in places quartz and chert pebbles and assorted metamorphic and igneous rock fragments Piedmont. In areas of the Valley and Ridge province gravel composed of angular quartz, and quartzite pebbles. Coastal deposits include fine to medium quartz sand and accessory heavy minerals along Gulf beaches and fine to medium quartz sand, silt ooze in the Mississippi Sound, Little Lagoon, bays, lakes, streams, and estuaries.

Pleistocene Series

High terrace deposits

Varicolored lenticular beds of poorly sorted sand, ferruginous sand, silt, clay, and consists primarily of very fine to very coarse poorly sorted quartz grains; gravel quartzite, and chert pebbles.

COASTAL PLAIN PROVINCE

GROUP		SYSTEM	SERIES	GROUP
		Cretaceous	Upper	

QTci

Citronelle Formation

Moderate-reddish-brown deeply weathered fine to very coarse quartz sand and varicolored typically mottled lenticular beds of clay and clayey gravel. Limonite pebbles and lenses of limonite cemented sand occur locally in weathered exposures. Gravel is composed of chert and quartz pebbles.

Miocene Series undifferentiated

Moderate-yellowish-orange thin-bedded to massive fine to coarse sand, gravelly sand, thin-bedded to massive clay and sandy clay. Clays are plastic in part. Limonite pellets occur in places along clay-sand contacts. Gravel is composed of quartz and chert granules and pebbles. Locally the upper part of the unit is Pliocene in age.

Oligocene Series undifferentiated

Descriptions of the units of the Oligocene Series follow in descending order. Paynes Hammock Sand--locally fossiliferous, calcareous, argillaceous medium to coarse sand; pale-blue-green clay; and thin-bedded sandy limestone; exposed at Paynes Hammock and at St. Stephens. Chickasawhay Limestone--white to yellowish-gray fossiliferous, glauconitic limestone and soft marl. Byram Formation includes three members in descending order: Bucatunna Clay Member--dark, bentonitic, carbonaceous, sparsely fossiliferous clay and grayish-yellow sand; unnamed marl member--light-gray to yellowish-gray sandy, glauconitic, fossiliferous marl; Glendon Limestone Member--irregularly indurated coquinoid and crystalline limestone, weathering to indurated rock containing large tubular cavities, locally known as "horsebone." Marianna Limestone--white to yellowish-gray soft, porous, very fossiliferous limestone. Forest Hill Sand--dark-greenish-gray carbonaceous clay with lenses of glauconitic fossiliferous sand; extends eastward from Mississippi into Choctaw, Clarke and Washington Counties. Red Bluff Clay--greenish-gray calcareous clay locally containing selenite crystals, yellowish-gray glauconitic, fossiliferous limestone; and light-gray silty clay with interbeds of sand (Forest Hill equivalent); from Tombigbee River eastward grades into glauconitic fossiliferous limestone equivalent to the Bumpnose Limestone. Bumpnose Limestone--very light-gray to yellowish-gray chalky, subcoquinoid, glauconitic, argillaceous, fossiliferous limestone; intertongues with Red Bluff Clay in vicinity of the Alabama River and is readily differentiated eastward from the Sepulga River.

Jackson

Jackson Group undifferentiated

The units of the Jackson Group are the Yazoo Clay and Crystal River and Moodys Branch Formations. Descriptions of the members of the Yazoo Clay follow in descending order. Shubuta Member--in western Alabama consists of light-greenish-gray to white plastic fossiliferous, calcareous clay containing irregular calcareous nodules. From the Tombigbee River eastward the Shubuta becomes more calcareous and grades into massive clayey glauconitic limestone. Eastward from the Alabama River, equivalent beds grade into the Crystal River Formation. Pachuta Marl Member--light-greenish-gray glauconitic, fossiliferous clayey sand and sandy limestone traceable from western Alabama eastward to Covington County where it grades into the Crystal River Formation. Cocoa Sand Member--yellowish-gray firm calcareous, fossiliferous fine to medium sand or sandy limestone or greenish-gray micaceous, calcareous, very clayey sand Calcareous and clayey sand equivalent to the Cocoa is traceable from western Alabama to the Conecuh River area. North Twistwood Creek Clay Member--greenish-gray plastic calcareous, sparsely fossiliferous, blocky, massive clay; grades into Crystal River Formation in southeast Alabama. Crystal River Formation--white to yellowish-gray medium-grained to coquinoid limestone that is soft and chalky to compact and brittle; principally in southeastern Alabama but interfingers westward with members of the Yazoo Clay. Moodys Branch Formation--greenish-gray to pale-yellowish-orange glauconitic, calcareous, fossiliferous sand and sandy limestone; underlies the Yazoo Clay and the Crystal River Formation.

Residuum

White to moderate-reddish-orange locally mottled sandy clay and residual clay with scattered layers of gravelly medium to coarse sand, fossiliferous chert and limestone boulders, and limonitic sand masses. Derived from solution and collapse of limestone in the Jackson Group and Oligocene Series and the slumping of Pliocene and Miocene sediments.

Claiborne

Gosport Sand and Lisbon Formation undifferentiated in part

Gosport Sand--highly fossiliferous, glauconitic, quartz sand and lenses of greenish-gray clay; occurs between Mississippi State line and Alabama River. Lisbon Formation--greenish-gray calcareous, glauconitic, fossiliferous clayey sand; marl; carbonaceous sand; carbonaceous silty clay; and coarse glauconitic, fossiliferous, quartz sand.

Tallahatta Formation

White to very light-greenish-gray thin-bedded to massive siliceous claystone; interbedded with thin layers of fossiliferous clay, sandy clay, and glauconitic sand and sandstone. White to light-greenish-gray fine to coarse sand and fine gravel occur at the base of the formation in southwest Alabama (Meridian Sand Member).

Wilcox

Hatchetigbee Formation

Light- to dark-gray laminated carbonaceous clay, silt and very fine to fine sand, and cross-bedded glauconitic sand; one or more thin beds of fossiliferous marly glauconitic sand and sandstone occur in the upper part. Near the base is a prominent bed of glauconitic calcareous sand containing abundant fossils and spheroidal to pillow-shaped sandstone concretions (Bashi Marl Member). In parts of southeast Alabama the upper beds of the Hatchetigbee were either eroded or not deposited and the overlying Tallahatta Formation directly overlies the Bashi Marl Member

Tuscahoma Sand

Light-gray to light-olive-gray laminated and thin-bedded carbonaceous silt and clay interbedded with fine sand; thin lignite beds occur locally. Lower part of the formation includes beds of fossiliferous, glauconitic fine quartz sand containing spheroidal sandstone concretions, gravel and clay pebbles.

Nanafalia Formation

Members of the Nanafalia Formation follow in descending order. Grampian Hills Member--medium-gray massive clay, claystone, sandy fossiliferous clay, and fossiliferous fine sand. "*Ostrea thirsae* beds"--glauconitic, abundantly fossiliferous, quartzose fine to medium sand. Gravel Creek Sand Member--pale-yellowish-orange to moderate-reddish-brown micaceous cross-bedded fine to very coarse sand containing gravel and clay pebbles in some exposures. Gravel Creek Member is absent locally and near the base [illegible] beds of lignite

Salt Mountain Limestone

White massive, indurated fossiliferous limestone containing lenses and irregular beds of soft, friable limestone. Exposed only at Salt Mountain, on the upthrown side of the Jackson fault 5 miles south of Jackson, [illegible] County

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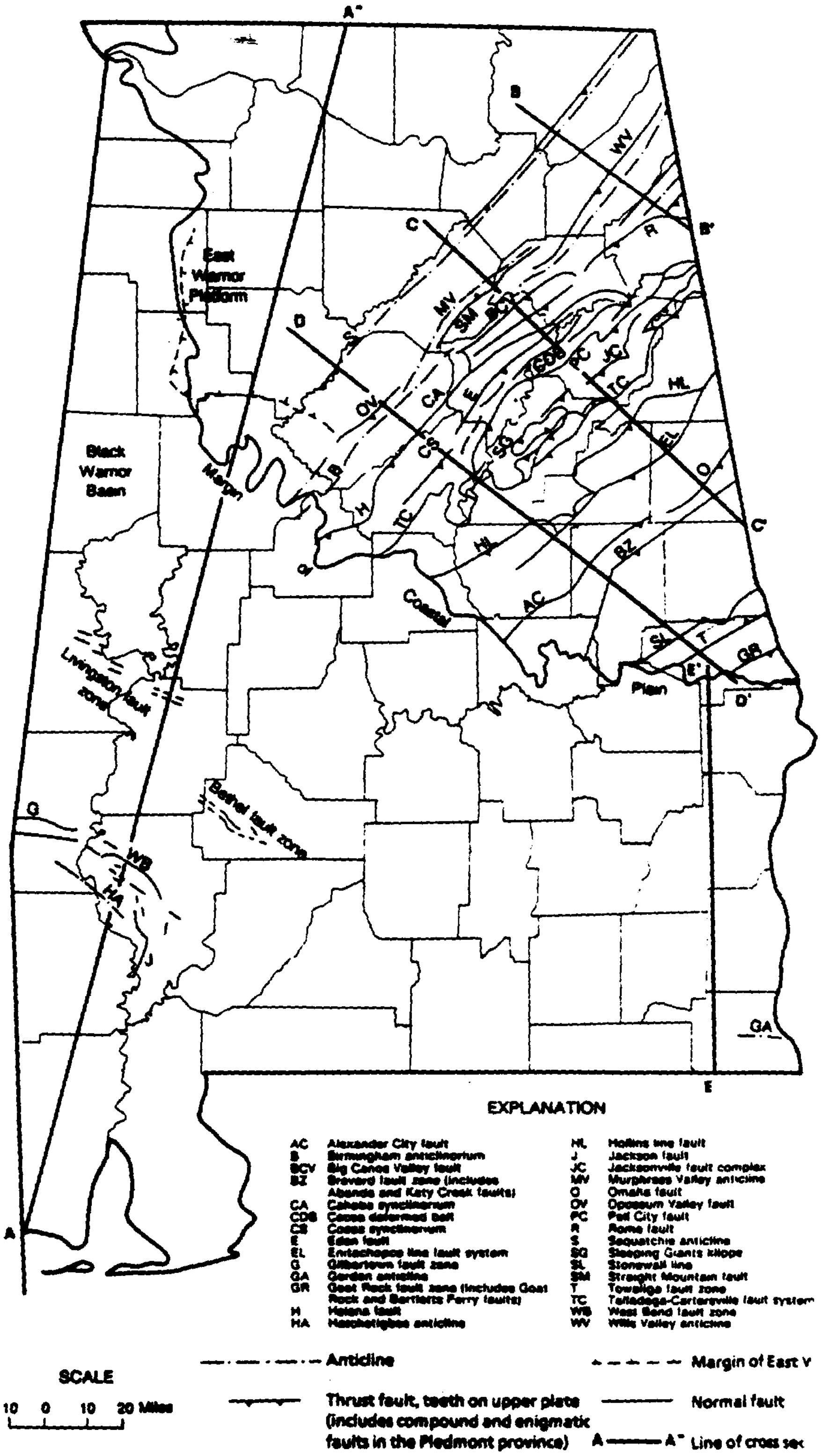
MAJOR STRUCTURAL FEATURES



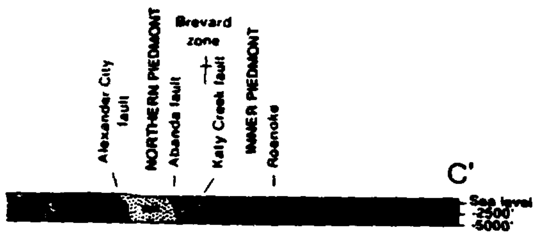
Osborne, Michael W. Szabo, Charles W. Copeland, Jr., and Thornton L. N

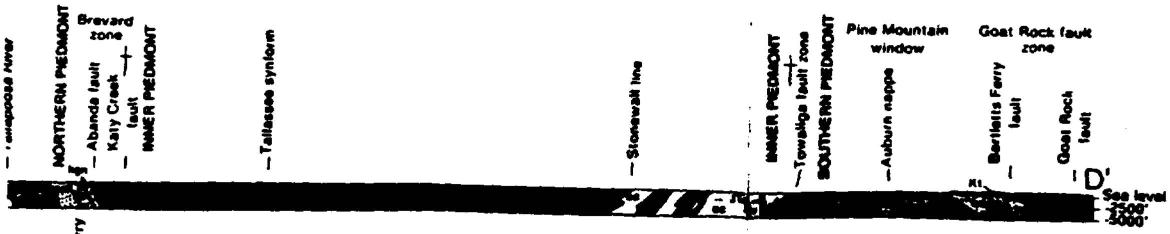
PROJECT DIRECTOR
CHARLES W. COPELAND, JR.

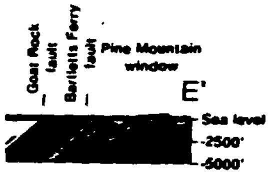
Scale 1:500,000
1 inch equals approximately 8 miles

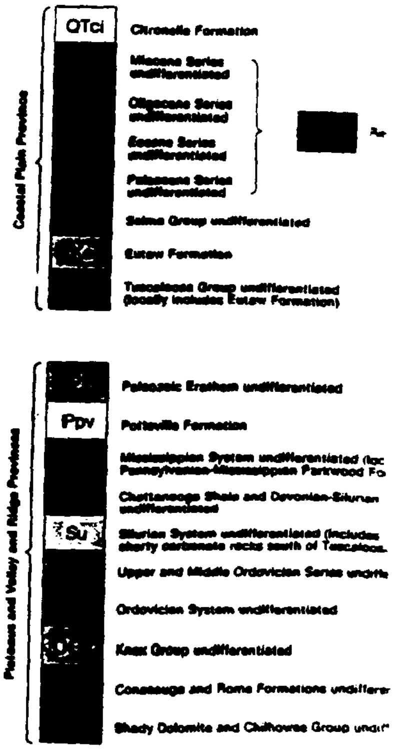
10 0 10 20 30 40 Miles

10 0 10 20 30 40 50 Kilometers









Cretaceous | Upper | Selma

danlly fossiliferous chalk, and calcareous clay (Bluffport Marl Member). In south-central Montgomery County the Demopolis is split into two eastward-extending tongues by a westward-extending tongue of the Cusseta Sand Member of the Ripley Formation. The lower tongue is pale-olive to yellowish-gray silty to finely sandy, micaceous, fossiliferous chalk that eastward becomes more sandy and merges with the Cusseta in central Bullock County. The upper tongue is yellowish-gray clayey, very finely sandy, micaceous chalk that merges with the Ripley in southeastern Montgomery County.

Km

Mooreville Chalk

Yellowish-gray to olive-gray compact fossiliferous clayey chalk and chalky marl. The unconformable contact at the base is characterized by a bed of glauconitic, chalky sand containing phosphate pellets and molds of fossils. The Arcola Limestone Member at the top consists of two to four beds of light-gray brittle, dense, fossiliferous limestone separated by beds of light-gray to pale-olive calcareous clay.

bonaceous clay. The member occurs at the base of the Ripley Formation and extends from Georgia westward into Montgomery County where it merges with the Demopolis Chalk.

Blufftown Formation

The Blufftown extends from the Chattahoochee River Valley westward into central Russell County where it is divided into two westward-extending tongues by an eastward-extending tongue of the Mooreville Chalk. In the Chattahoochee River Valley the Blufftown is mainly glauconitic calcareous fine sand, micaceous clay and marl, fossiliferous clay, gray calcareous fossiliferous sandstone, and carbonaceous clay and silt. To the west the lower tongue of the Blufftown is gravelly sand, glauconitic sand, calcareous clay, and sandy clay and merges with the lower part of the Mooreville Chalk in southwestern Macon County. The upper tongue is mainly calcareous sandy clay and micaceous silty fine sand with thin layers of limestone and sandstone. The upper tongue merges with the Mooreville Chalk and the lower part of the Demopolis Chalk in western Bullock County.

Eutaw Formation

Light-greenish-gray to yellowish-gray cross-bedded, well-sorted, micaceous, fine to medium quartz sand that is fossiliferous and glauconitic in part and contains beds of greenish-gray micaceous, silty clay and medium-dark-gray carbonaceous clay. Light-gray glauconitic fossiliferous sand, thin beds of sandstone, and massive accumulations of fossil oyster shells occur locally in the upper part of the formation in western Alabama (Tombigbee Sand Member). In eastern Alabama thin- to thick-bedded accumulations of the fossil oyster *Ostrea cretacea* Morton occur throughout much of the formation.

Tuscaloosa

Gordo Formation

Massive beds of cross-bedded sand, gravelly sand, and lenticular beds of locally carbonaceous partly mottled moderate-red and pale-red-purple clay; lower part is predominantly a gravelly sand consisting chiefly of chert and quartz pebbles. *Not mapped east of the Tallapoosa River.*

Coker Formation

Light-colored micaceous very fine to medium sand, cross-bedded sand, varicolored micaceous clay, and a few thin gravel beds containing quartz and chert pebbles. Beds of thinly laminated finely glauconitic very fine to fine sand, silt and dark-gray carbonaceous clay (Eoline Member) occur locally in the lower part in western Alabama. Locally quartz and chert gravels at the base of the formation range in size from very fine pebbles to large cobbles. In southeastern Elmore County the formation includes marine sediments consisting of glauconitic, fossiliferous, quartzose fine to medium sand and medium-gray carbonaceous silty clay. Not mapped east of the Tallapoosa River.

Tuscaloosa Group undifferentiated

Light-gray to moderate-reddish-orange clayey, gravelly fine to very coarse sand; massive mottled sandy clay; local wood and leaf beds; and thin beds of indurated sandstone. Gravels consist mainly of quartz and quartzite and range in size from very fine pebbles to large cobbles. Mapped east of the Tallapoosa River.

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HIAN PLATEAUS PROVINCE

n (upper part)
y shale, siltstone, medium-gray sandstone, and coal in cyclic
nding order the members include: the Razburg Sandstone
h Sandstone Member,
Member, and the
ember

n (lower part)
edded to massive
andstone, containing
interbedded dark-gray

Ppv

Pottsville Formation

Light-gray thin- to thick-bedded quartzose sandstone and conglomerate containing interbedded dark-gray shale, siltstone, and coal. Mapped on Lookout Moun-

VALLEY AND RIDGE PROVINCE

(western part) **(eastern part)**

Ppv2u

Pottsville Formation (upper part)

Interbedded dark-gray shale, siltstone, medium-gray sandstone, and coal in cyclic sequences. The members present in the Cahaba synclinorium in descending order include the Straven Conglomerate Member, Rocky Ridge Sandstone Member, and Chesnut Sandstone Member. The members present in the Coosa synclinorium in descending order include: Straight Ridge Sandstone Member and Wolf Ridge Sandstone Member

Ppv2l

Pottsville Formation (lower part)

... thick-bedded to massive pebbly quartzose sandstone, containing varying amounts of interbedded ... Cahaba and Coosa synclinoria the members

Weisner and Wilson Ridge Formations undifferentiated
Interbedded quartzose to slightly feldspathic sandstone and laterally continuous conglomerate in ledge-forming units separated by greenish-gray silty mudstone.

NT PROVINCE

:TAMORPHIC AND IGNEOUS ROCKS

up
rse- to fine-grained biotite-feldspar-quartz gneiss, sericite-chist, ± biotite ± garnet-muscovite schist, and biotite-garnet ically common pegmatites. Locally includes masses of roscoelite-iist, graphitic quartzite, garnet quartzite (garnetite), and mafic rock.

tain Group
ied feldspathic graphite schist, ± staurolite ± kyanite ± e-biotite schist, and garnet-biotite-muscovite schist and ion pegmatites. Locally includes masses of roscoelite-graphite ic quartzite, garnet quartzite (garnetite) and garnetiferous altered the area of Turkey Heaven Mountain in Cleburne and Randolph re assigned to the Poe Bridge Mountain Group also have been the Wedowee Group.

;
ned migmatitic, locally garnetiferous biotite-feldspar gneiss vith granitic pods.

ned feldspathic biotite-sericite-quartz-muscovite schist, staurolite, garnet, and locally sillimanite in northeast outcrop of aluminous graphite schist, hornblende quartzite, garnet mphibolite. Schist commonly retrograded to sericite-garnet-us granitic pegmatites.

hic biotite gneiss; medium- to coarse-grained muscovite-ocally kyanite and sillimanite. Many of the schists have been e-garnet-quartz-sericite schist. Commonly includes irregular tz schist (± garnet) containing finely disseminated graphite. wee Group equivalents. Extensively cut by feldspathic dikes and

ndivided in part
ferentiated includes the Cragford Phyllite and Cutnose Gneiss. erbedded fine-grained graphite-chlorite-sericite schist and schist and phyllite, graphite-quartz-sericite phyllite, locally ineiss, calc-silicate rock, and quartzite. Cutnose Gneiss--d fine-grained quartz-biotite feldspathic gneiss, graphite-locally thin interbeds of graphite-quartz-sericite phyllite, and area northeast of Clanton in Chilton and Coosa Counties that he Wedowee Group also have been interpreted as part of the

ined quartz-plagioclase ± almandine ± kyanite ± biotite-hite-muscovite-quartz schist, and quartzite containing biotite. muscovite, andalusite and/or chiastolite common. Rocks in the er in Coosa County and Millerville in Clay County that are here yville Schist also have been interpreted as part of the Higgins

rained multiply foliated ± plagioclase ± garnet-biotite-st interlayed with chlorite-biotite-garnet schist, typically

differentiated in part
± garnet-biotite schist, metagraywacke, calc-silicate rock, amphibolite. Includes thin layers of aluminous graphitic schist ite schist

te schist with interlayered metagraywacke

\ND ULTRAMAFIC ROCKS

olite
- to coarse-grained, thin-layered to massive hornblende-cludes all amphibolite associated with the Higgins Ferry and

hibolite
- to coarse-grained, layered to massive amphibolite mixed inolite schist, includes all amphibolite associated with the Poe

ite
hornblende amphibolite, extensively sheared and folded, and ctinolite-tremolite-chlorite schist. Includes all amphibolite wee Group.

ieets, principally enstatite-hypersthene pryoxenite with alteration assemblages.

'TRUSIVE ROCKS

orite Gneiss
ic, fine- to coarse-grained, massive to strongly foliated, ite gneiss.

odiorite, and trondhjemite; locally well-foliated, numerous ned granitoids in Chilton County.

strongly lineated granite to granodiorite.

ERATHEM OR SYSTEM	GROUP OR COMPLEX	INNER PIEDMONT
		HIGH-GRADE METAMORPHIC AND IGNEOUS ROCKS
Precambrian to Paleozoic	Dadeville Complex	**Agricola Schist** Biotite ± garnet ± sillimanite-feldspar-quartz schist, interlayered with thin-bedded dark-brown hornblende amphibolite; contains pegmatite pods and veins.
		Ropes Creek Amphibolite Layered and massive amphibolite, locally includes hornblende migmatite and ultramafic pods.
		Waresville Schist Banded amphibolite interlayered with chlorite schist, chlorite amphibolite, chlorite-actinolite schist, chlorite ± magnetite quartzite, and actinolite quartzite, may include small ultramafic pods
		dwgn **Waverly Gneiss** Feldspathic biotite-hornblende gneiss with thin layers of amphibolite, calc-silicate rock, garnet quartzite, and muscovite schist, locally rich in manganese
		Mafic and ultramafic rock Ultramafic rock including enstatite pyroxenite, layered actinolite-tremolite amphibolite altered locally to serpentine, anthophyllite, and talc, metanorite; metagabbro; hornblendite; garnet-hornblendite, and massive amphibolite.
		Camp Hill Granite Gneiss Coarse- to medium-grained foliated granite to quartz diorite (tonalite) gneiss, locally biotite-rich; locally contains thin amphibolite pods and lenses. Boundary between Rock Mills Granite Gneiss and Camp Hill Granite Gneiss arbitrarily defined.
		Rock Mills Granite Gneiss Coarse- to medium-grained biotite granite gneiss; locally includes thick bands of epidote and thin, small amphibolite bodies. Boundary between Rock Mills Granite Gneiss and Camp Hill Granite Gneiss arbitrarily defined.
	Opelika Complex	**Loachapoka Schist** Muscovite-quartz schist, locally contains biotite-garnet-muscovite schist, many layers contain sillimanite (northeast of Mount Jefferson, Lee County); kyanite (west of Mount Jefferson); locally muscovite-rich schist and quartzite common.
		Auburn Gneiss Fine-grained biotite-oligoclase gneiss intermixed with coarse-grained muscovite-biotite schist; locally contains muscovite-rich pegmatite. Unit commonly grades to medium- to coarse-grained muscovite-biotite schist, locally garnetiferous
		Bottle Granite Leucocratic, fine- to medium-grained, well-foliated quartz monzonite to granite, locally porphyritic.
		SOUTHERN PIEDMONT
		HIGH-GRADE METAMORPHIC AND IGNEOUS ROCKS
	Pine Mountain Group	**Manchester Schist** Interlayered muscovite-quartz schist and quartzite, locally contains garnet, sillimanite and graphite; commonly intensely sheared.
		Chewacla Marble Light-gray coarse- to fine-grained dolomite marble, locally rich in phlogopite.
		Hollis Quartzite Quartzite containing minor mica, feldspar, and pyrite, locally arkosic, commonly sheared.
	Wacoochee Complex	wh **Halawaka Schist** Feldspathic muscovite-biotite schist and quartz-diorite gneiss; locally contains lenses of muscovite-graphite schist and amphibolite, commonly cut by feldspathic veins and pegmatites.
		Whatley Mill Gneiss Variably mylonitized coarse-grained biotite-muscovite-oligoclase gneiss with large potassium feldspar augen.
		Phelps Creek Gneiss Quartz monzonite to granite gneiss in dikes and sheets with wide migmatite zones at contacts.
		Motts Gneiss Leucocratic quartz-rich quartz diorite pencil gneiss; unit includes masses of epidote-hornblende-oligoclase mylonitic gneiss and amphibolite.
		Moffits Mill Schist Interlayered biotite-epidote-muscovite-quartz schist, metagraywacke, and quartzite
	Uchee Complex	**Phenix City Gneiss** Biotite-epidote quartz diorite gneiss and biotite-hornblende gneiss; locally includes migmatitic amphibolite; cut by numerous granitic veins.
		Hospilika Granite Leucocratic, massive epidote-muscovite quartz diorite to granodiorite, weak flow banding, sharp contacts.
		MYLONITIC AND CATACLASTIC ROCKS IN THE BREVARD, TOWALIGA, AND GOAT ROCK FAULT ZONES
		Mylonite and blastomylonite; contains minor ultramylonite, mylonite schist, and mylonite gneiss.
		Blastomylonite, mylonite gneiss; locally [illegible]

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV
Uniroyal, Inc.
Number of connections served by
Beauregard

BVWST Project 52012.193
BVWST File
January 7, 1994
1300

To:	John Woods
Company:	Beauregard Water Works
Phone No.:	(205)749-4900
Recorded by:	K.A. Lewis

Mr. Woods stated that Beauregard Water Works currently has 1891 connections in which water is supplied. He also stated that one of the connections with Opelika Water Works, the southern most connection, is an emergency connection that has never been used. The other connection with Opelika is open continuously. He stated that Beauregard Water Works purchases water from Opelika so that water is always entering Beauregard from Opelika. He also stated that Opelika has never had to purchase water from Beauregard Water Works. Mr. Woods estimated that Beauregard normally purchases approximately 50,000 gallons per month from Opelika. Assuming a 31-day month, this quantity would be 1.2 gallons per minute (gpm).

The two wells north of Beauregard School are Well No. 1 and 3 and their pumping rates are 180 gpm and 220 gpm, respectively. Well No. 2 pumps at 220 gpm. Beauregard operates two treatment systems. One system treats water from Well No. 1 and 3 and another system treats water from Well No. 2. Water from both treatment systems is pumped into the same distribution where it blends.

Table 6. Household, Family, and Group Quarters Characteristics: 1990

Reference 25

[For definitions of terms and meanings of symbols, see text]

State County Place and [In Selected States] County Subdivision	Persons in households	All households	Family households			Nonfamily households	Householder living alone			Persons per—		Persons in group quarters		
								65 years and over						
			Total	Married-couple family	Female householder, no husband present	Total	Total	Total	Female	Household	Family	Total	Institutionalized persons	Other persons in group quarters
The State	3 948 188	1 506 790	1 103 835	858 327	201 220	402 955	358 078	154 191	123 608	2.62	3.13	92 402	51 583	40 819
COUNTY														
Autauga County	34 [illegible]	11 826	9 501	7 708	1 437	2 325	2 093	833	746	2.88	3.27	194	173	21
Baldwin County	97 144	37 844	28 142	23 512	3 716	8 902	7 923	3 717	2 874	2.62	3.06	1 136	759	377
Barbour County	24 844	9 218	6 687	4 868	1 518	2 531	2 340	1 218	961	2.70	3.28	573	539	34
Bibb County	16 333	5 745	4 478	3 628	650	1 267	1 164	628	518	2.84	3.29	243	225	18
Blount County	39 047	14 644	11 654	10 139	1 180	2 990	2 788	1 500	1 242	2.67	3.05	201	182	19
Bullock County	10 368	3 787	2 712	1 900	979	1 075	1 021	592	456	2.74	3.35	673	673	–
Butler County	21 687	7 935	5 825	4 281	1 289	2 110	1 987	1 174	925	2.73	3.29	205	205	–
Calhoun County	111 127	42 983	31 718	25 111	5 346	11 265	9 965	4 215	3 477	2.59	3.08	4 907	954	3 953
Chambers County	36 502	13 786	10 219	7 564	2 189	3 567	3 289	1 794	1 429	2.65	3.15	374	363	11
Cherokee County	19 466	7 466	5 860	4 984	664	1 606	1 523	828	653	2.61	3.01	77	76	1
Chilton County	32 228	12 114	9 352	7 773	1 218	2 762	2 552	1 358	1 073	2.66	3.09	230	212	18
Choctaw County	15 941	5 747	4 313	3 291	831	1 434	1 370	705	526	2.77	3.32	77	77	–
Clarke County	26 935	9 506	7 192	5 498	1 404	2 314	2 184	1 136	888	2.83	3.37	305	303	2
Clay County	13 084	5 003	3 794	3 188	405	1 209	1 153	646	525	2.62	3.09	168	168	–
Cleburne County	12 662	4 776	3 748	3 212	386	1 028	955	499	406	2.65	3.05	68	67	1
Coffee County	39 788	15 260	11 570	9 546	1 639	3 690	3 315	1 525	1 236	2.61	3.06	452	384	68
Colbert County	51 378	20 096	15 174	12 410	2 278	4 922	4 592	2 291	1 873	2.56	3.01	287	239	48
Conecuh County	13 944	5 250	3 889	2 928	808	1 361	1 302	750	596	2.65	3.18	106	92	14
Coosa County	10 907	4 017	3 095	2 489	476	922	855	419	306	2.72	3.17	156	156	–
Covington County	36 141	14 444	10 474	8 440	1 629	3 970	3 707	2 078	1 684	2.50	3.01	337	284	53
Crenshaw County	13 495	5 282	3 786	2 870	747	1 476	1 407	831	640	2.56	3.12	140	140	–
Cullman County	66 715	25 605	19 915	17 165	2 093	5 690	5 284	2 729	2 237	2.61	3.02	898	717	181
Dale County	47 225	17 574	13 334	10 818	2 052	4 240	3 709	1 428	1 127	2.69	3.15	2 408	306	2 102
Dallas County	47 196	17 033	12 402	7 770	4 038	4 631	4 322	2 163	1 893	2.77	3.36	934	566	368
DeKalb County	54 175	20 968	16 094	13 593	1 921	4 874	4 571	2 420	1 995	2.58	3.02	476	476	–
Elmore County	45 636	16 532	13 000	10 628	1 858	3 532	3 212	1 515	1 194	2.77	3.19	3 374	3 363	11
Escambia County	34 154	12 899	9 507	7 258	1 841	3 392	3 128	1 586	1 283	2.65	3.16	1 364	1 364	–
Etowah County	98 568	38 675	28 585	22 956	4 573	10 090	9 411	4 763	3 953	2.55	3.04	1 272	980	292
Fayette County	17 785	6 850	5 165	4 306	685	1 684	1 583	932	754	2.59	3.06	177	126	51
Franklin County	27 504	10 850	8 164	6 930	975	2 686	2 528	1 396	1 119	2.53	3.00	310	306	4
Geneva County	23 523	9 231	6 870	5 696	911	2 361	2 234	1 213	1 008	2.55	3.03	124	124	–
Greene County	10 083	3 512	2 532	1 475	894	980	917	488	353	2.87	3.50	70	70	–
Hale County	15 232	5 397	3 983	2 679	1 094	1 414	1 319	744	536	2.82	3.40	266	264	2
Henry County	15 260	5 760	4 320	3 336	779	1 440	1 345	787	609	2.65	3.13	114	103	11
Houston County	80 450	30 844	22 628	17 692	4 087	8 216	7 429	3 222	2 616	2.61	3.12	881	738	143
Jackson County	47 460	18 020	14 041	11 849	1 676	3 979	3 726	1 833	1 496	2.63	3.06	336	170	166
Jefferson County	638 382	251 479	176 573	129 641	38 530	74 906	66 633	26 851	21 781	2.54	3.10	13 143	8 463	4 680
Lamar County	15 536	6 005	4 512	3 777	571	1 493	1 416	814	653	2.59	3.07	179	162	17
Lauderdale County	78 134	30 905	22 966	19 144	3 113	7 939	7 235	3 414	2 807	2.53	3.00	1 527	633	894
Lawrence County	31 346	11 410	9 032	7 514	1 189	2 378	2 225	1 146	871	2.75	3.16	167	167	–
Lee County	82 724	33 007	20 115	15 336	3 675	12 892	8 635	2 001	1 539	2.50	3.11	4 422	703	3 719
Limestone County	52 404	19 685	15 277	12 794	1 935	4 408	4 077	1 791	1 456	2.66	3.09	1 731	1 589	142
Lowndes County	12 630	4 056	3 143	1 892	1 086	913	850	460	344	3.11	3.65	28	28	–
Macon County	22 611	8 483	5 535	3 119	2 056	2 948	2 482	1 137	855	2.67	3.36	2 317	563	1 754
Madison County	233 149	91 208	65 475	53 195	9 598	25 733	21 923	5 866	4 758	2.56	3.08	5 763	1 408	4 355
Marengo County	22 889	8 156	6 088	4 326	1 455	2 068	1 973	1 067	834	2.81	3.37	195	189	6
Marion County	29 219	11 521	8 700	7 391	1 013	2 821	2 650	1 432	1 174	2.54	2.99	611	570	41
Marshall County	70 119	27 761	20 927	17 403	2 700	6 834	6 332	3 136	2 594	2.53	2.97	713	574	139
Mobile County	371 562	136 899	100 814	73 628	22 877	36 085	31 851	12 548	9 841	2.71	3.23	7 081	3 951	3 130
Monroe County	23 801	8 412	6 355	4 845	1 281	2 057	1 915	972	756	2.83	3.35	167	160	7
Montgomery County	201 578	77 173	53 573	37 973	13 254	23 600	20 578	7 609	6 186	2.61	3.21	7 507	4 276	3 231
Morgan County	98 295	37 790	28 651	23 679	3 893	9 148	8 370	3 384	2 706	2.60	3.05	1 748	1 600	148
Perry County	12 145	4 201	3 102	1 984	945	1 099	1 049	605	468	2.89	3.50	614	138	476
Pickens County	20 456	7 568	5 658	4 179	1 236	1 910	1 822	1 039	787	2.70	3.21	243	222	21
Pike County	25 824	10 314	6 949	5 052	1 606	3 365	2 892	1 432	1 163	2.50	3.11	1 771	214	1 557
Randolph County	19 671	7 553	5 640	4 532	874	1 913	1 814	1 008	800	2.60	3.09	210	204	6
Russell County	46 286	17 499	12 736	9 045	3 053	4 763	4 286	1 825	1 302	2.65	3.17	574	406	168
St. Clair County	48 453	17 666	14 094	12 032	1 507	3 572	3 265	1 486	1 194	2.74	3.13	1 556	1 530	26
Shelby County	97 539	35 985	27 767	24 095	2 862	8 218	7 034	1 806	1 483	2.71	3.14	1 819	582	1 237
Sumter County	15 434	5 545	3 914	2 417	1 286	1 631	1 475	778	590	2.78	3.42	740	142	598
Talladega County	71 728	26 448	20 195	15 589	3 752	6 253	5 782	2 810	2 252	2.71	3.18	2 379	1 854	525
Tallapoosa County	38 237	14 700	10 992	8 507	2 046	3 708	3 445	1 827	1 454	2.60	3.08	589	575	14
Tuscaloosa County	141 179	55 354	37 355	28 653	7 194	17 999	14 272	4 795	3 813	2.55	3.13	9 343	3 574	5 769
Walker County	66 858	25 554	19 534	16 072	2 723	6 020	5 608	2 957	2 402	2.62	3.06	811	651	160
Washington County	16 604	5 709	4 548	3 648	725	1 161	1 096	556	431	2.91	3.35	90	90	–
Wilcox County	13 355	4 415	3 289	2 080	1 033	1 126	1 055	588	463	3.02	3.64	213	210	3
Winston County	21 815	8 544	6 594	5 658	705	1 950	1 835	937	748	2.56	2.97	238	211	27
PLACE AND COUNTY SUBDIVISION														
Abbeville city, Henry County	3 081	1 214	852	609	199	362	341	208	177	2.54	3.13	92	90	2
Adamsville city, Jefferson County	4 142	1 484	1 219	1 013	155	265	245	123	101	2.79	3.13	19	–	19
Addison town, Winston County	628	283	194	152	36	89	81	30	27	2.38	2.80	–	–	–
Akron town, Hale County	468	182	120	63	51	62	60	42	30	2.57	3.31	–	–	–
Alabaster city, Shelby County	14 455	4 921	4 154	3 556	486	767	665	214	185	2.94	3.23	277	244	33
Albertville city, Marshall County	14 356	5 838	4 248	3 430	681	1 590	1 486	751	648	2.46	2.95	151	142	9
Alexander City city, Tallapoosa County	14 630	5 745	4 152	3 093	913	1 593	1 488	824	683	2.55	3.08	287	287	–
Aliceville city, Pickens County	2 933	1 200	763	488	246	437	423	283	233	2.44	3.20	76	76	–
Allgood town, Blount County	464	163	138	110	20	25	22	14	13	2.85	3.08	–	–	–
Altoona town	910	380	264	202	48	116	114	64	50	2.39	2.98	50	50	–
Blount County	3	1	1	1	–	–	–	–	–	3.00	3.00	–	–	–
Etowah County	907	379	263	201	48	116	114	64	50	2.39	2.98	50	50	–
Andalusia city, Covington County	9 120	3 812	2 556	1 902	551	1 256	1 167	603	513	2.39	3.00	149	109	40
Anderson town, Lauderdale County	339	144	105	89	15	39	38	22	17	2.35	2.84	–	–	–
Anniston city, Calhoun County	26 160	10 807	7 250	4 916	2 009	3 557	3 298	1 589	1 312	2.42	3.03	463	404	59
Arab city	6 256	2 592	1 909	1 575	275	683	645	320	281	2.41	2.88	65	65	–
Cullman County	22	10	9	7	1	1	1	1	1	2.20	2.33	–	–	–
Marshall County	6 234	2 582	1 900	1 568	274	682	644	319	280	2.41	2.89	65	65	–
Ardmore town, Limestone County	1 090	439	315	236	64	124	118	64	60	2.48	3.02	–	–	–
Argo town	930	332	270	242	23	62	56	27	17	2.80	3.15	–	–	–
Jefferson County	59	21	15	15	–	6	6	4	2	2.81	3.53	–	–	–
St. Clair County	871	311	255	227	23	56	50	23	15	2.80	3.13	–	–	–
Arlon town, Dale County	743	265	200	151	42	85	84	47	41	2.81	3.24	–	–	–
Arley town, Winston County	338	123	102	84	14	21	19	13	9	2.75	3.07	–	–	–

TPSII [POSTSCRIPT] CPH101 CENSUS90 72540800 04/23/91 12:02 PM MACHINE: C DATA:CENSUS90*PH1TPSDAT01, 04/23/91 11:52:37 OUTPUT:ONSITE-P1047 PAGE: 66
TSF:CENSUS90*92, 04/23/91 11:52:52 UTF:CENSUS90*93, 04/23/91 11:52:52 META:CENSUS90*PH1TABLES01, 04/23/91 11:50:36

NOTE: The population counts set forth herein are subject to ... The United States

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV
Uniroyal Inc.
Uses of Spring Villa and Lees Lake

BVWST Project 52012.193
BVWST File
January 14, 1994
1430

To: Ellen Strozier
Company: Opelika Parks and Recreation
Phone No.: (205)705-5560

Recorded by: K.A. Lewis

Spring Villa is a public recreation area operated by the City of Opelika. Spring Villa has a park and a swimming pool which is feed by groundwater from the spring. Swimming occurs during the summer months and fishing is not allowed at Spring Villa. The park area is used all year for picnics, reunions, and other activities. She estimated that annual visitation to the park is 10,000 people. She did not know whether drinking water at the facility came directly from the spring.

Lees Lake is a privately owned lake that is used for some fishing. She did not know who owed the lake.

OVERSIZED

DOCUMENT

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV	BVWST Project 52012.193
Uniroyal Inc.	BVWST File
Flow rate of Little Uchee Creek and	January 11, 1994
Chewacla Creek near the site	1430

To: Leroy Pearman
Company: Alabama Geological Survey
Phone No.: (205)223-7510

Recorded by: K.A. Lewis

Mr. Pearman looked up the average flow rate of Little Uchee Creek just before it merges with Phelps Creek. The drainage area of the creek at this point is approximately 8.91 square miles and the average drainage volume is 1.33 cubic feet per square mile yielding a flow rate of 11.6 cubic feet per second (cfs).

Mr. Pearman looked up the average flow rate of Chewacla Creek upstream of Lees Lake. The drainage area immediately prior to the lake is approximately 2.33 square miles while the drainage volume is 1.3 cubic feet per square mile yielding an average flow rate of 3.0 cfs.

Mr. Pearman also looked up the average flow rate of Chewacla Creek near the intersection of the creek and County Road 12, downstream of Lees Lake. At this location, the drainage area is approximately 5.28 square miles and the average drainage volume is 1.3 cubic feet per square mile yielding a flow rate of 6.86 cfs.

OVERSIZED

DOCUMENT

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV
Uniroyal Inc.
Source of water for Auburn, AL

BVWST Project 52012.193
BVWST File
January 12, 1994
0930

To: Rex Griffin
Company: City of Auburn Water Works Board
Phone No.: (205)887-4911

Recorded by: K.A. Lewis

Mr. Griffin stated that the City of Auburn obtains its raw water from Lake Ogletree located southeast of Auburn, Alabama. The City of Auburn also supplements its drinking water with water purchased from Opelika Water Works. Approximately 5% of Auburn's water is purchased from Opelika. The balance of drinking water comes from treated water obtained from Lake Ogletree. Auburn has two connections with Opelika. Each connection is located at the city limits with one located on Hamilton Road while the other is located at Opelika Road. The City of Auburn serves drinking water to approximately 10,500 connections.

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV	BVWST Project 52012.193
Uniroyal, Inc	BVWST File
Uses of Chewacla Creek in Chewacla State Park	January 11, 1994
	1530

To: Jimmy Shivers
Company: Chewacla State Park
Phone No.: (205)887-5621

Recorded by: K.A. Lewis

The Chewacla State Park has private fishing and swimming in both Lake Chewacla and Chewacla Creek. However, Chewacla Creek does not flow into Lake Chewacla, but it is included in the park. Lake Chewacla is feed by More Mill Creek. The outlet of Lake Chewacla flows into Chewacla Creek. Most fish that are retrieved from the park are bass, crappie, blue gill, shell cracker, and catfish. Total park visitation is approximately 100,000 people per year.

Lake Ogletree, upstream of Chewacla State Park on Chewacla Creek, is not part of Chewacla State Park, but is owned by the City of Auburn, Alabama. The City of Auburn gets its raw drinking water from Lake Ogletree.

Mr. Shivers was not aware of any endangered species that may inhabit the lake or the creek.

STATE OF ALABAMA
DEPARTMENT OF CONSERVATION AND NATURAL RE
64 NORTH UNION STREET
POST OFFICE BOX 301456
MONTGOMERY, ALABAMA 36130-1456

JIM FOLSOM
GOVERNOR

CHARLEY GRIMSLEY
COMMISSIONER

DIVISION OF GAME AND FISH
CHARLES D. KELLEY
DIRECTOR

November 29, 1993

Reply to: District Fisheries Office
Suite 491
64 North Union Street
Montgomery, AL 36130
(205) 242-3628

Mr. Kenneth A. Lewis
B&V Waste Science and Technology Corp.
1117 Perimeter Center West
Atlanta, Georgia 30338

Dear Mr. Lewis:

I reviewed the maps regarding fisheries resources at sites in Lee and Russell Counties.

A number of small streams are present within the 4-mile radius of each site. In general, such streams support fish populations but only limited fishing and water contact recreation. Most fishing at both sites occurs in privately owned ponds and at the few public areas discussed below. Most pond fisheries consist primarily of largemouth bass, bluegill and channel catfish. About 20-percent of fishing in Alabama is on private ponds.

The Uniroyal site in Lee County appears to sit astride the Chewacla Creek and Little Uchee Creek drainages. Chewacla Creek drains to the Tallapoosa River and Little Uchee Creek is in the Chattahoochee River drainage. The only high use public fishing area within the 4-mile radius is Lee County Public Lake, although it is not in the drainage area of the Uniroyal facility. Lee County Public Lake is owned by this Department and is managed specifically for fishing (water contact activities are not permitted). Annual visitation is generally between 15,000 and 25,000 man-days. The fishery consists mainly of five species (bluegill, redear sunfish, largemouth bass, black crappie and channel catfish) with an annual harvest of 25,000 to 45,000 individuals.

Chewacla Creek passes through Chewacla State Park, which includes a lake with limited fishing and considerable water contact activities. Annual visitation information may be available directly from the park.

I have no information on Lees Lake, which I assume is a privately owned facility.

The major fishery resource within the 4-mile radius of the Douglas and Lomason site is the Chattahoochee River. In general, this river is under management by the Georgia DNR and they should be contacted regarding visitation and composition of the fishery. I do know that public access is provided to all areas of the river within the 4-mile radius. Also, this stretch of the river is a stronghold of the Shoal Bass, an unusual black bass species found only in free flowing stretches of the Chattahoochee-Flint system, including all of the streams at both sites which drain to the Chattahoochee.

There are no publicly owned lakes in Alabama within the 4-mile radius of the Douglas and Lomason site and I have no information on the many privately owned lakes in this area.

Information on wetlands is available from the U.S. Fish and Wildlife Service field office in Daphne, Alabama (205-441-5181).

Feel free to contact me if I can be of further assistance.

Sincerely,

GAME AND FISH DIVISION

Jim McHugh

James J. McHugh
District Fisheries Supervisor

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV
Uniroyal, Inc.
Endangered species in Lee County

BVWST Project 52012.193
BVWST File H
November 19, 1993
16:50

To: Carl Couret
Company: Fish and Wildlife Service - Daphny Office
Phone No.: (205)441-5181

Recorded by: K.A. Lewis

Mr Couret provided me with the information regarding federally endangered species in Lee County, Alabama presented in the following table

Species	Certainty (possible or known)	Status (endangered or threatened)
Indiana Bat	possible	endangered
Red Cockaded Woodpecker	known	endangered
Relict Trillium	known	endangered

Endangered status represents the highest level of protection for a species. Threatened is the next highest level of protection. The relict trillium is a plant.

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region IV
Uniroyal Inc.
Endangered species in Chewacla Creek
or Little Uchee Creek.

BVWST Project 52012
BVWST File
January 12, 1994
1130

To:	Scott Patton
Company:	Auburn University-Fisheries Dept.
Phone No.:	(205)844-9318

Recorded by: K.A. Lewis

Mr. Patton stated that he was not aware of any endangered or threatened species in Chewacla Creek or Little Uchee Creek in the Lee County area.

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

TELEPHONE MEMORANDUM

USEPA Region Iv
Uniroyal, Inc.
Employees at Uniroyal Goodrich Tire Co,

BVWST Project 52012.193
BVWST File H
December 1, 1993
1135

To: Glenda Ferrell
Company: Opelika Chamber of Commerce
Phone No.: (205)745-4861

Recorded by: K.A. Lewis

Ms. Ferrell stated that approximately 1500 people are employed at the Uniroyal Goodrich Tire Co.

i

Uniroyal Inc.
LATITUDE 32:36:29 LONGITUDE 85:20:32 1983 POPULATION

KM	0.00-.400	.400-.810	.810-1.60	1.60-3.20	3.20-4.80	4.80-6.40	SECTOR TOTALS
S 1	0	0	0	0	0	1806	1806
S 2	0	0	1306	0	0	0	1306
S 3	0	0	0	0	0	0	0
S 4	0	0	0	0	0	0	0
S 5	0	0	0	0	0	0	0
S 6	0	0	0	0	3319	0	3319
S 7	0	0	0	0	0	0	0
S 8	0	0	0	0	2593	4630	7223
RING TOTALS	0	0	1306	0	5912	6436	13654

press RETURN to continue
MENU: Geodata Handling Data List procedures
Ente[illegible]in parentheses) ([illegible])
or a command: HELP, HELP option, BACK, CLEAR, EXIT, TUTOR
GEMS> exit

Type YES to confirm the EXIT command; type NO to restart GEMS
GEMS> yes
$ logout
HTW logged out at 10-DEC-1993 09:52:00.24
Itemized resource charges, for this session, follow:

NODE: VAXTM1
ACCT: 9040 START TIME: 10-DEC-1993 09:49:57.80
PROJ: GEMS0001 FINISH TIME: 10-DEC-1993 09:52:00.24
USER: HTW BILLING PERIOD:931201
UIC: [000710,000012] WEEKDAY: FRIDAY
BAUD: TERMINAL PORT: VTA1078

DESCRIPTION OF CHARGE		QUANTITY	EXPENDITURE
ALL CHARGE LEVELS			
300 baud	(Seconds)	122	0.0000
CPU TIME	(Seconds)	2	2>YT

NO CARRIER

SUPERFUND RECORD CENTER

DOCUMENT TRANSMITTAL FORM FOR SAS

DATE: 5-27-94
SITE NAME: Uniroyal, INC.
SITE I.D. NUMBER #: ALD 041511361
SAM NAME: Cynthia Gurley

CHECK TYPE OF DOCUMENT:

- [ ] PA
- [ ] HRS PACKAGE
- [ ] SITE DISCOVER INFO
- [ ] SSI PHASE I
- [ ] CONFIDENTIAL
- [ ] MAPS
- [ ] NEW REPORTS: YES
- [ ] RETURN RECEIPT REQUEST
- [ ] SAMPLE ANALYSIS
- [ ] PA SCORES
- [ ] PHASE II SSI REFERENCE
- [x] SIP
- [ ] NEW SITE
- [ ] OTHER ____________

SPECIAL INSTRUCTION: add to file.

RECORD CENTER USE ONLY

DATE CHECKED IN: __________ CHECKED IN BY: __________
FILED BY: __________ DATE FILED: __________

HRS Scoresheets

Site Name: *Uniroyal, Inc.*
Location: *Opelika, Alabama (Scenario 2)*

SITE SCORING SUMMARY

Groundwater Migration Pathway Score	14.72
Surface Water Migration Pathway Score	45.41
Soil Exposure Migration Pathway Score	3.20
Air Migration Pathway Score	7.20
Overall Site Score	24.19

M.2 - SITE MAINTENANCE FORM

* ACTION: _ *

EPA ID : ALD041511361

SITE NAME: UNIROYAL INC SOURCE: H * ____________ _ *

STREET : HWY 169 & UNIROYAL RD CONG DIST: 03 * ____________ __ *

CITY : OPELIKA ZIP: 36801 * ____________ _____-____ *

CNTY NAME: LEE CNTY CODE : 081 * ____________ ___ *

LATITUDE : 32/36/17.0 LONGITUDE : 085/20/35.0 * ___/__/__._ ___/__/__._ *

LL-SOURCE: R LL-ACCURACY: * _ _ *

SMSA : HYDRO UNIT: 03150110 * ____ ________ *

INVENTORY IND: Y REMEDIAL IND: Y REMOVAL IND: N FED FAC IND: N * _ _ _ _ *

NPL IND: N NPL LISTING DATE: NPL DELISTING DATE: * _ __/__ __/__ *

SITE/SPILL IDS: * __ __ __ __ __ *

RPM NAME: RPM PHONE: - - * ____________ ___-___-____ *

SITE CLASSIFICATION: SITE APPROACH: * __ __ *

DIOXIN TIER: REG FLD1: REG FLD2: 6 * ____ _____ _ *

RESP TERM: PENDING ( ) NO FURTHER ACTION ( ) * PENDING (_) NO FURTHER ACTION (_) *

ENF DISP: NO VIABLE RESP PARTY ( ) VOLUNTARY RESPONSE ( ) * _ _ *
ENFORCED RESPONSE ( ) COST RECOVERY ( ) * _ _ *

SITE DESCRIPTION:

* ____ *
* ____ *
* ____ *
* ____ *

M.2 - PROGRAM MAINTENANCE FORM

* ACTION: _ *

SITE: UNIROYAL INC

EPA ID: ALD041511361 PROGRAM CODE: H01 PROGRAM TYPE: * __ *

PROGRAM QUALIFIER: ALIAS LINK : * ___ __ *

PROGRAM NAME: SITE EVALUATION * ____________________ *

DESCRIPTION:

* ____ *

* ____ *

* ____ *

* ____ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: UNIROYAL INC
PROGRAM: SITE EVALUATION

EPA ID: ALD041511361 PROGRAM CODE: H01 EVENT TYPE: DS1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: E * _ ___ _ *

EVENT NAME: DISCOVERY STATUS: * ____________________ _ *

DESCRIPTION:

* ______________________________________ *
* ______________________________________ *
* ______________________________________ *
* ______________________________________ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START:	* __/__/__	__/__/__	__/__/__ *
COMP :	COMP :	COMP : 08/01/80	* __/__/__	__/__/__	__/__/__ *

HQ COMMENT:

* ______________________________________ *

RG COMMENT:

* ______________________________________ *

COOP AGR #	AMENDMENT #	STATUS	STATE %
			0

* ________ ________ __ ___ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: UNIROYAL INC
PROGRAM: SITE EVALUATION

EPA ID: ALD041511361 PROGRAM CODE: H01 EVENT TYPE: PA1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: S * _ ___ _ *

EVENT NAME: PRELIMINARY ASSESSMENT STATUS: * ______________________________ _ *

DESCRIPTION:

* ____ *
* ____ *
* ____ *
* ____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START: 10/01/84	* __/__/__	__/__/__	__/__/__ *
COMP :	COMP :	COMP : 11/01/84	* __/__/__	__/__/__	__/__/__ *

HQ COMMENT:

* ____ *

RG COMMENT:

* ____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %				
			0	* __________	__________	__	__ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _

SITE: UNIROYAL INC
PROGRAM: SITE EVALUATION

EPA ID: ALD041511361 PROGRAM CODE: H01 EVENT TYPE: SI1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: S * _ ___ _ *

EVENT NAME: SITE INSPECTION STATUS: * ______________________________ _ *

DESCRIPTION:

* ____ *
* ____ *
* ____ *
* ____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START: 04/22/85	* __/__/__	__/__/__	__/__/__ *
COMP :	COMP :	COMP : 04/22/85	* __/__/__	__/__/__	__/__/__ *

HQ COMMENT:

* ____ *

RG COMMENT:

* ____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %
			0

* __________ __________ __ ___ *

M.2 - COMMENT MAINTENANCE FORM

SITE: UNIROYAL INC

EPA ID: ALD041511361

COM NO	COMMENT	ACTION
001	PART A- ON FILE	* _ ________ *
		* ________ *

EPA

POTENTIAL HAZARDOUS WASTE SITE TENTATIVE DISPOSITION

REGION	SITE NUMBER
IV	ALD 041511361

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Uniroyal, Inc	B. STREET: Hwy 169	
C. CITY: Opelika (Lee Co)	D. STATE: AL	E. ZIP CODE: 36801

II. TENTATIVE DISPOSITION

Indicate the recommended action(s) and agency(ies) that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED — NO HAZARD					
B. INVESTIGATIVE ACTION(S) NEEDED (If yes, complete Section III.)	X	X			
C. REMEDIAL ACTION NEEDED (If yes, complete Section IV.)					
D. ENFORCEMENT ACTION NEEDED (If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)					

E. RATIONALE FOR DISPOSITION

This SI does not address past disposal practices. Opelika obtains groundwater from a spring 2.5 miles from the site.

F. INDICATE THE ESTIMATED DATE OF FINAL DISPOSITION (mo., day, & yr.)

G. IF A CASE DEVELOPMENT PLAN IS NECESSARY, INDICATE THE ESTIMATED DATE ON WHICH THE PLAN WILL BE DEVELOPED (mo., day, & yr.)

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Elizabeth M Shaver	(404) 881-2234	7-16-85

III. INVESTIGATIVE ACTIVITY NEEDED

A. IDENTIFY ADDITIONAL INFORMATION NEEDED TO ACHIEVE A FINAL DISPOSITION.

Medium priority for further investigation. Past disposal practices should be investigated.

B. PROPOSED INVESTIGATIVE ACTIVITY (Detailed Information)

1. METHOD FOR OBTAINING NEEDED ADDITIONAL INFO.	2. SCHEDULED DATE OF ACTION (mo, day, & yr)	3. TO BE PERFORMED BY (EPA, Contractor, State, etc.)	4. ESTIMATED MANHOURS	5. REMARKS
a. TYPE OF SITE INSPECTION				
(1)				
(2)				
(3)				
b. TYPE OF MONITORING				
(1)				
(2)				
c. TYPE OF SAMPLING				
(1)				
(2)				

Continued From Front

III. INVESTIGATIVE ACTIVITY NEEDED and PART B - PROPOSED INVESTIGATIVE ACTIVITY *(Continued)*

d. TYPE OF LAB ANALYSIS (1)				
(2)				
e. OTHER *(specify)* (1)				
(2)				

C. ELABORATE ON ANY OF THE INFORMATION PROVIDED IN PART B *(on front & above)* AS NEEDED TO IDENTIFY ADDITIONAL INVESTIGATIVE WORK.

D. ESTIMATED MANHOURS BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES	1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES
a. EPA		b. STATE	
c. EPA CONTRACTOR		d. OTHER *(specify)*	

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY STRATEGY *(On Site & Off-Site)*: List all emergency actions needed to bring site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the space below.

1. ACTION	2. EST. START DATE *(mo,day,&yr)*	3. EST. END DATE *(mo,day,&yr)*	4. ACTION AGENCY *(EPA, State, Private Party)*	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY *(On Site & Off-Site)*: List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. EST. START DATE *(mo,day,&yr)*	3. EST. END DATE *(mo,day,&yr)*	4. ACTION AGENCY *(EPA, State Private Party)*	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

C. ESTIMATED MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES	1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES
a. EPA			b. STATE		
c. PRIVATE PARTIES			d. OTHER *(specify)*		

2. PROJECT MANAGEMENT SUMMARY

Site Name: UNIROYAL, INC.

Site Number: ALD041511361

Owner: UNIROYAL, INC.

Operator: UNIROYAL, INC.

Site Status: [X] Active [ ] Inactive [ ] Unknown

Priority: [ ] High [ ] Medium [X] Low [ ] None

3. FINAL DISPOSITION

I. EPS Final Review - Date: 4/4/85

Comments:

Follow Up Required [X] Yes [ ] No

II. ADEM Review - Date: 4/16/85 SCM

Comments:

Follow-up Action Required [X] Yes [ ] No

III. Final Disposition:

Review & revise	Date:
Edited & correct	Date:
Transmitted	Date:
File close-out	Date:
Initiate site inspection	Date:

4. ADDITIONAL COMMENTS (ONGOING & FINAL)

In a conversation with ADEM staff on 4/5/85, RCRA 3012 investigators learned that enforcement action is currently pending at the Uniroyal facility. Generator compliance inspections indicate the presence of leaking drums, accumulations for periods longer than allowed and problems involving management practices and record-keeping. Details are available through the ADEM offices. They report that a tank on-site is being allowed to leak. Leakage is being caught but apparently no actions have been taken toward repair.

RCRA 3012 SITE INSPECTION REPORT

FOR

UNIROYAL INCORPORATED
ALD041511361
OPELIKA, ALABAMA
SITE INSPECTION
January 9, 1985

Presented to:

Alabama Department of Environmental Management
Montgomery, Alabama

Presented by:

Environmental Protection Systems, Inc.
Jackson, Mississippi
Pensacola, Florida
Mobile, Alabama

Project No. 1.84.174.01
April, 1985

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

Uniroyal Incorporated has manufactured tires at this site since 1963. Prior to their occupation of this site, the land was forested. The waste materials consist of waste rubber cement (about 30 drums per year) and waste oil. Waste oil was burned under a permit for heat recovery.

The RCRA 3012 site investigation focused on two surface impoundments used in their NPDES system. These surface impoundments potentially received water which contained organic contamination. The waters and sediments were analyzed for possible priority pollutants organics. Analytical results did not confirm the presence of any priority pollutant organics (acid extractables or base neutrals). No volatile organics analyses were performed at this site. The water sample from the inactive surface impoundment exploded during preparation for base neutral organic analyses. The cause for this violent reaction is unknown. Based on this, it is recommended that this former surface impoundment be analyzed for volatile organics and flash point to determine if it represents a hazard at the plant site. In addition, base neutral organic contamination has yet to be determined. Based on the laboratory's experience with this sample, extreme care must be taken in the handling of samples from this area.

Current activities are being regulated by ADEM under generator status. Current analyses of ten drums of material from varying sources across the plant site indicated EP Toxic levels of mercury in several of the drums. The source of this mercury is undetermined at this time. In addition, several of the drums were both ignitable and corrosive. The State of

Alabama's solid waste regulations indicate that this combination is potentially reactive. ADEM personnel are aware of this situation and this is being handled through the ADEM offices.

2.0 BACKGROUND

2.1 Location

The Uniroyal site is at the following location:

Uniroyal Incorporated
Highway 169
Opelika, Alabama 36801
Lee County (081)
Latitude 32° 36' 46"
Longitude 85° 20' 33"

Refer to Exhibit 2.1 for maps indicating location of the plant facility.

2.2 Site Layout

The site layout can be seen in Exhibit 2.2. Uniroyal Inc. owns property on both sides of Highway 169. The surface impoundments, both active and inactive, are located north of Highway 169 and are indicated on the map. Railroad tracks are located to the north and west of the facility and a storage area is located due north of the plant building.

2.3 Ownership History

Uniroyal Incorporated has owned this site since 1963. Prior to 1963, the land was used for forestland.

2.4 Site Use History

Uniroyal Inc. began manufacturing tires at this site in 1963. Waste materials at this site consist mainly of rubber cement and waste oil. Waste oil was burned under a permit for some period of time, and some waste oil was also landfilled during early years of operation. ADEM files indicate that they have disposed rubber and gasoline wastes at local landfills, specifically, the Opelika Landfill. During the early years of operation, there was some public concern about water discharges to Little Uchee Creek. The outfall from the this facility was directly upstream from the community drinking water supply intake. Trace levels of six organic compounds were found in storm water runoff. This storm was diverted through ponds on the site and the company discharged this water to the creek. After some discussion, Uniroyal agreed to divert this water to another creek in the area which would not impact the public water supply. Since that time, one of these ponds has been abandoned and the company currently uses a settling pond on the site.

2.5 Permit and Regulatory History

This site has been regulated under an NPDES permit since its inception. The ADEM files document a long regulatory history. In 1980, the facility filed a RCRA Part A application. The filing was protective, in that they burned waste oil for energy and since waste oil was potentially regulated as hazardous, they anticipated that this would be classified as treatment. As this was not the case, the Part A application was withdrawn in 1983. The facility is currently regulated by ADEM under generator status only. This facility has been inspected recently and compliance history is documented in the ADEM solid waste files.

2.6 Remedial Actions to Date

During the early year of operation, the files indicate that there was public concern about water discharges from the Uniroyal facility. The facility was discharging wastewater into a creek directly upstream from a public water supply intake. After some discussion with the regulatory agency, Uniroyal agreed to divert waters to another creek in the area.

Since that time, there appears to be no history of non-compliance with Clean Water Act regulations.

Rubber cement from the facility was placed in drums for an unknown period. These drums were stored on a farm in the area. Uniroyal removed these drums from the farm prior to RCRA regulation. Since that time, disposal practices are documented in generator reports.

2.7 Summary Trip Report

Environmental Protection Systems, Inc. (EPS), conducted a RCRA 3012 site investigation of the Uniroyal facility on January 9, 1985. Weather conditions were cool and clear. The team consisting of Paul J. Bierstine, P.E. and Billy A. Warden, E.I.T., arrived at the site at 9:00 a.m. They met with Mr. Palmer Peterson of Uniroyal Incorporated. The sampling plan was discussed with specific emphasis on the areas to be sampled. At this time, Mr. Peterson indicated that some information included in the preliminary assessment was recorded in err. He was unaware of any furnace at the facility which contained mercury. He did indicate that ten drums of waste material recently analyzed from the site contained mercury; however, he was unaware of its source.

Sampling began at approximately 9:30 a.m. when a background sample was taken from the rear of the plant near the fence and railroad tracks (UNR-S01-BG). The next area to be investigated was the active surface impoundment. A water grab was taken (UNR-WA1-ATV). In addition, two sediment samples were taken (UNR-SD3-APD) and (UNR-SD4-APD). Next, the sampling team inspected the inactive surface impoundment. A water grab was taken from the area where a floating boom was present (UNR-WA2-OPD). Behind the boom, the water surface appeared to have a filmy sheen. In addition, the water appeared black and oily. Two sediment samples were also taken at this site (UNR-SD1-OPD) and (UNR-SD2-OPD). After completion of the sampling, Mr. Peterson was given a sample receipt and the sampling team left the site.

3.0 ENVIRONMENTAL SETTING

3.1 Topography

Refer to Exhibit 2.1 for topographic map of the site and surrounding area. This map indicates that the Uniroyal facility is located in an area typical of the Piedmont Upland section. This area is described as a region of rolling hills of moderate relief. The plant site appears to be graded for industrial use. The major streams of the area occupy valleys from 75 to 150 feet below the upland surface.

3.2 Surface Waters

Public drinking water records indicate the City of Opelika obtains its drinking water from Saugahatchee Lake, located northwest of the city. A water quality station is maintained here. Examination of the topographic map and other maps of the area indicate two major creeks in the immediate area. Little Uchee Creek is located to the east and Chewacla Creek is located to the west of the site. Lees Lake is located approximately two miles southwest of Uniroyal and receives water from Chewacla Creek. The general area is not subject to seasonal flooding from these creeks. Little Uchee Creek flows near a spring approximately 2 1/2 miles southeast of the south. This spring is a source for the City of Opelika Public drinking water supply.

3.3 Geology and Soils

Opelika and the surrounding area lies in the Piedmont Upland section of the Piedmont Province in the Appalachian Highlands. The Piedmont region in east central Alabama is a maturely dissected surface that is underlain by igneous and metamorphic rocks of pre-Cambrian and Paleozoic age. Most of the Piedmont can be described as region of rolling hills of moderate relief with the major streams occupying valleys from 100 to 200 feet below the upland surface. The southern margin of the province marks the contact between crystalline rocks of the Piedmont and sedimentary rocks of the Coastal Plain. Approximately eight miles south west of the site, in the Chewacla State Park, is the Towaliga Fault Zone. This zone is a shallow gorge and is characterized by natural exposures of mylonite zones. The area around Opelika is generally underlain by quartz formations and these are the water-bearing units. The soils in the area, from shallowest to deepest, are Musella-Gwinnett-Hiwassee type. These soils are characterized as loamy soils which are well drained and only moderately permeable. The dominant slope in this soil type ranges from 1 - 25 %. The soil is generally strongly acidic with the pH range of 5.1 - 5.5. Less than 25 % of the land is classed as prime farmland. Drilling logs in the area indicate that the depth to bed rock is between 80 - 125 feet.

3.4 Groundwater

Throughout Lee County groundwater is available from sand and gravel beds of Cretaceous and younger deposits, from igneous and metamorphic rocks, and from fractures and solution cavities as well as other openings in the rocks. The groundwater movement in Lee County generally conforms to the configuration of the land surface. In the area around Opelika, water is confined in artesian aquifers and the movement was generally southward. Springs are indicated throughout the area, and in fact, Opelika obtains some of their water from a spring within 2.5 miles of the Uniroyal Site. The review of well logs for wells north of Uniroyal indicate that the depth to groundwater is approximately 10 - 20 feet with the drilled depth to water of about 50 feet. Other wells in the area tap quartz and gneiss at depths ranging from 75-120 feet. The Tuscaloosa group and Cambrian and Ordovician aquifers are listed as potentially significant in Lee County. The Tuscaloosa group aquifers are generally to the south of Opelika as are their recharge areas. Additionally, Opelika and the areas to the south of Opelika are located in the Piedmont aquifer where wells tapping solution cavities in marble or quartzite yields of from 0.1-1 MGD (Refer to Exhibit 3.4).

The Piedmont aquifer is characterized by various igneous and metamorphic group geologic formations. Their composition is generally saprolite, schist, gneiss, granite and marble. Small amounts of water may be found in the upper few hundred feet of the crystalline basement fractures. These fractures are usually minute and tend to become smaller and less numerous with increasing depth. Overlying the crystalline basin of the Piedmont is a layer of saprolite. The water characteristics of this layer vary widely with location and thickness, but generally there is more water available from the saprolite overburden and from the basement. Saprolite thickness varies from nil to in excess of 50 feet. The composition of the saprolite ranges from predominately clays in areas underlying the schist to predominately sand areas underlain by gneiss and granite. Water quality in the Piedmont is usually good with a fairly soft water, low total dissolved solids content. Water flow through the saprolite material is high due to the often porous of the saprolite. This suggests a high pollution potential for the Piedmont upland province, as any contaminant could move rapidly through the aquifers system. It should be noted however that in some areas saprolite may have weathered to a clay and formed an impervious layer that may extend over tens or even hundreds of square miles. Somewhat less significant in the area are the Tuscaloosa group aquifers. They are composed primarily of the Tuscaloosa group undifferentiated Coker and Gordo formations. Their composition is primarily sand and gravel. Water quality in these aquifers is usually good and usually soft, however it is hard in local areas.

3.5 Climate and Meteorology

The climate of Alabama is generally classified as humid sub-tropical, having mild winters and hot summers with precipitation during all months. Snow seldom falls in the southern one-half of the state and climatic data stations in the state indicate no average monthly temperatures below freezing. More specifically the Opelika area has an annual precipitation of 56 inches. The annual evaporation is approximately 39.4 inches with net precipitation of 16.6 inches. The heaviest precipitation is received in the winter and spring with the largest evaporation in the spring and summer. The annual snowfall is recorded at 0.4 inches. Seasonal temperatures range from the winter average of 47.2° F. to the summer average of 78.9° F. In Alabama, there is no strong prevailing wind direction. The prevailing direction in the Opelika area is listed as generally to the south at a mean speed of 6.7 mile per hour.

3.6 Land Use

The area in and around the Uniroyal site extending northwards to the Chewacla is classified as industrial use. To the east and west of the site, the land use is classified as forested land. Immediately to the south and northwest of the site, the areas are residential. Specifically, two trailer parks are located along the highway and its vicinity. The population center of Opelika is located approximately northwest of the site. Only small sections of the land are classified for cropland and pasture. This is estimated ten percent of the land.

3.7 Population Distribution

The 1980 census indicated that the population was approximately 22,000. To the west of Opelika lies Auburn. As these communities are immediately adjacent to one another the population of both of these will be considered. The 1980 census indicates the population of both these areas to be approximately 55,000 people. Nearly 65% of the salaried work force of Lee County is employed in two major activities; manufacturing - 29.2, and government - 35.2. Predominance by government employment is directly related to Auburn University. Manufacturing is distributed among over 60 plants. Agriculture plays an important but secondary role in the local economy. The major agriculture product is cattle followed by cotton and corn. A color coded map is available in the land use section of reference 7. See Exhibit 3.7 for urban area. The Uniroyal facility is located southeast of the population center of Opelika. There are single family dwellings located in 3-4 acre lots along the highway leading from Opelika to Uniroyal with scattered industrial areas.

3.8 Water Supply

The city of Opelika gets some of its public water supply from the Sougahatchee Lake. This lake is located to the north and west of the population center of Opelika. The Opelika water supply is also taken from a spring located southeast of Uniroyal. Water purchased from Auburn is used as an emergency supply. Auburn's source is surface water. Several non-community water supplies are located to the north of the Uniroyal site. The average yield of these sites is between 3 and 500 gpm. These non-community water supplies generally serve trailer parks and it is estimated that 150 to 200 people are served per trailer park. Generally water is encountered between 16 to 80 feet. See Exhibit 3.8 for water supply records.

3.9 Critical Environments

There are no indications that this site lies within a critical habitat for any endangered, however, there are some sections in close proximity to the Opelika area with are note areas of archaeological significance as well as scenic trails and roads. Range maps for endangered and threatened species on the Federal and or Alabama list indicate that the following species are of concern:

Species Common Name	Range	Status
Indiana bat	Central Alabama	Endangered (Fed)
Gray bat	Eastern 2/3 Alabama	Endangered (Fed)
Bald eagle	Statewide	Endangered (Fed)
Golden-eagle	Statewide	Endangered (AL)
Red-cockaded woodpecker	South of Tennessee River	Endangered (Fed)
Peregrine falcon	Statewide	Endangered (Fed)
Osprey	Statewide	Endangered (Fed)

4.0 WASTE TYPES AND QUANTITIES

4.1 Waste Quantities

Current wastes generated at this facility are regulated by ADEM. Prior to 1980, there were no records kept about waste being generated. The prime concern of this investigation was residual organic contamination potentially present in surface impoundments on the site. The active surface impoundment is triangular shaped and is approximately 120 feet per side. The old, inactive surface impoundment is roughly square and each side is roughly 80-100 feet in length. Analyses for priority pollutant organics did not reveal any contamination of these sediments. Therefore, if any hazardous materials are present in these sediments, they are undetermined at this time. It should also be noted that in 1984 an effort was made to gather any unidentified materials present on the site and dispose of them. In this effort, ten drums of material were collected and analyzed. The analyses are recorded in the ADEM files and a copy has been presented in Exhibit 4.1. These analyses indicated that a large amount of mercury was present in some of the materials. The source of this mercury is unknown at this time. Current waste quantities generated are documented in generator reports in Exhibit 4.1.

4.2 Waste Disposal Methods and Locations

The preliminary assessment of this facility indicted that during the early year of operation, much of the waste from this facility went to local landfills. Wastewater was handled through an NPDES permit. In this process, the company has used surface impoundments. These impoundments still exist on the facility. One is located to the west of the plant building (the active impoundment) and the inactive is located to the south of the building. Waste oil has been burned in boiler on the facility. Ignitable waste is currently being sent to Chemical Waste Management.

4.3. Waste Types

The company reports two basic waste types being generated at this facility. The first is waste oil, which is burned in the boiler, the second is ignitable waste which is classified or characterized as rubber cement. The company indicates that they have not used lead oxide for catalyst in their process and only zinc oxide has been used. Therefore, it is unlikely that any lead waste would be present at this site. Rainwater runoff from this facility has been analyzed since the mid 1970's. Six organic chemicals have been found in the storm water runoff. These area nitropropane, diisopropyl carbinol, isophorone, benzothiazole, butyl phenol, and trichlorophenol. The source of this material is unknown.

5.0 LABORATORY DATA

5.1 Summary

The sample stations used in this investigation can be described as follows:

Station Number	Matrix	Station
UNR-S01-BG	Soil	Background sample taken to the rear of the plant and the railroad tracks.
UNR-WA1-APD	Water	Grab from active surface impoundment.
UNR-SD3-APD	Sediment	Composite of sediments from active surface impoundment.
UNR-SD4-APD	Sediment	Composite of sediments from active surface impoundment.
UNR-SD1-OPD	Sediment	Sediments from old inactive surface impoundment.
UNR-SD2-OPD	Sediment	Composite of sediments from the old inactive surface impoundment.
UNR-WA2-OPD	Water	Water from boomed area in inactive surface impoundment.

Analytical results and quality control information is presented in Exhibit 5.1. The sampling locations are indicated on Exhibit 2.2 Site Layout sketch. To summarize these results, no acid extractables or base neutral priority pollutant organics were found in any of the samples. A very important note is that the sample from the former surface impoundment, UNR-WA2-OPD, exploded during its processing. The lab indicated that this material was extracted into the appropriate organic solvent and upon placement in a water bath for evaporation, the material exploded, destroying both the sample and glassware. The entire sample had been used for extraction and therefore, the cause of its volatility could not be determined.

5.2 Quality Assurance Review

All sample collection, sample preservation and chain-of-custody procedures used during this investigation were conducted in accordance with the standard operating procedures as specified in the Quality Control/Quality Assurance Plan for the Analytical and Environmental Division of Environmental Protection Systems, Inc., revised August 31, 1984. All laboratory analyses and quality assurance procedures used during this investigation were conducted in accordance with standard procedures and protocols as specified in the Quality Control/Quality Assurance Plan for the Analytical and Environmental Division of Environmental Protection Systems, Inc., revised August 31, 1984, or as specified by the existing United States Environmental Protection Agency standard procedures and protocols for the contract analytical laboratory program. No deficiencies or suspect data were noted.

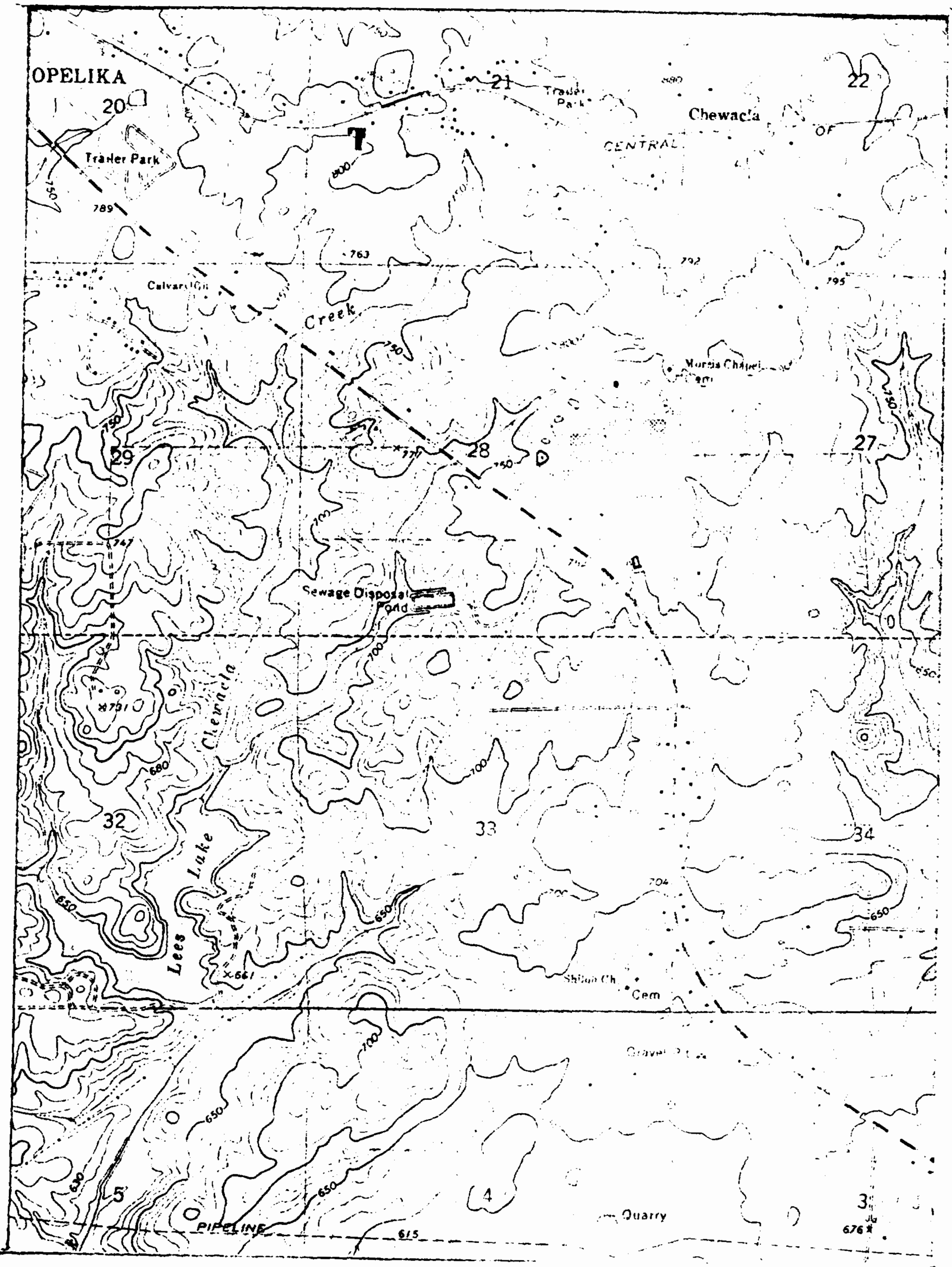
6.0 TOXICOLOGICAL/CHEMICAL CHARACTERISTICS

The toxicology from SAX is presented in Exhibit 6.0 for the six organic compounds determined present in the rainwater. These compounds have been analyzed at part per billion levels. As none of this material was determined present in any of the environmental samples, extensive discussion of this has not been done.

7.0 CONCLUSIONS AND RECOMMENDATIONS

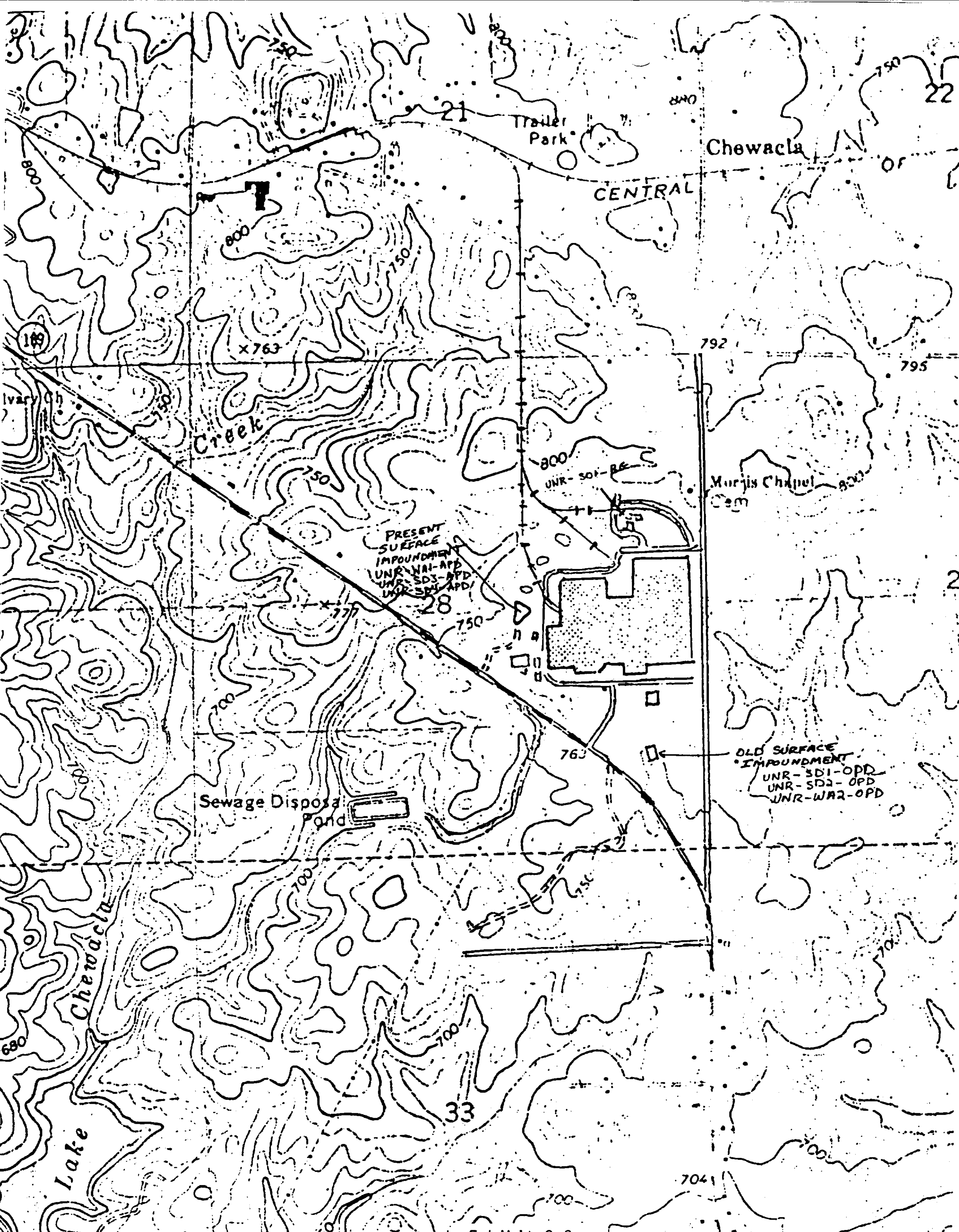
Environmental samples taken at the Uniroyal facility did not indicate the presence of any priority pollutant organics. The only possible exception to this was the sample taken in the old inactive surface impoundment. The base neutral extraction for this water sample exploded during its processing. Therefore, any compounds present could not be determined. This sample was taken in an area where an oil boom was present and a sheen was visible on the water surface. Volatile organics are known to be present on this site, although plant personnel indicate that it is unlikely these materials entered these surface impoundments. It appears that further work is necessary to determine the cause of this sample's volatility and any potential hazards it presents at the site.

EXHIBITS



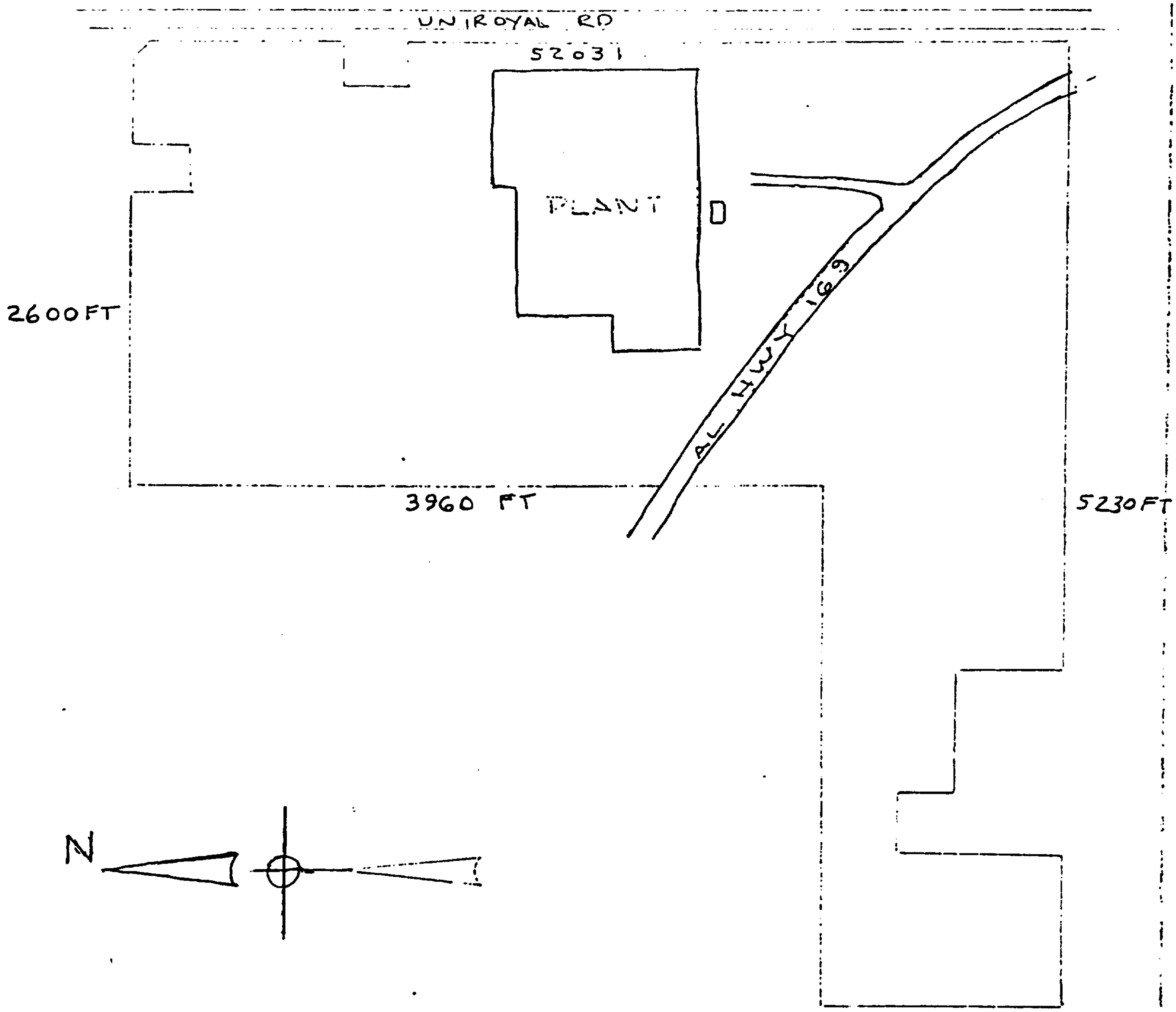
U.S.G.S. 7½ MIN. SERIES
______________, ALA

Exhibit 2.1



21
Trailer Park
Chewacla
CENTRAL
22
800
750
x763
Creek
lvary Ch
792
795
Morris Chapel Cem
UNR-SD1-BG
PRESENT SURFACE IMPOUNDMENT
UNR-WA1-APD
UNR-SD3-APD
UNR-SD4-APD
28
x777
700
763
OLD SURFACE IMPOUNDMENT
UNR-SD1-OPD
UNR-SD2-OPD
UNR-WA2-OPD
Sewage Disposal Pond
Chewacla
Lake
680
33
704

Exhibit 2.2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52031
PLANT
D
AL HWY 169
2600FT
3960 FT
5230FT
N

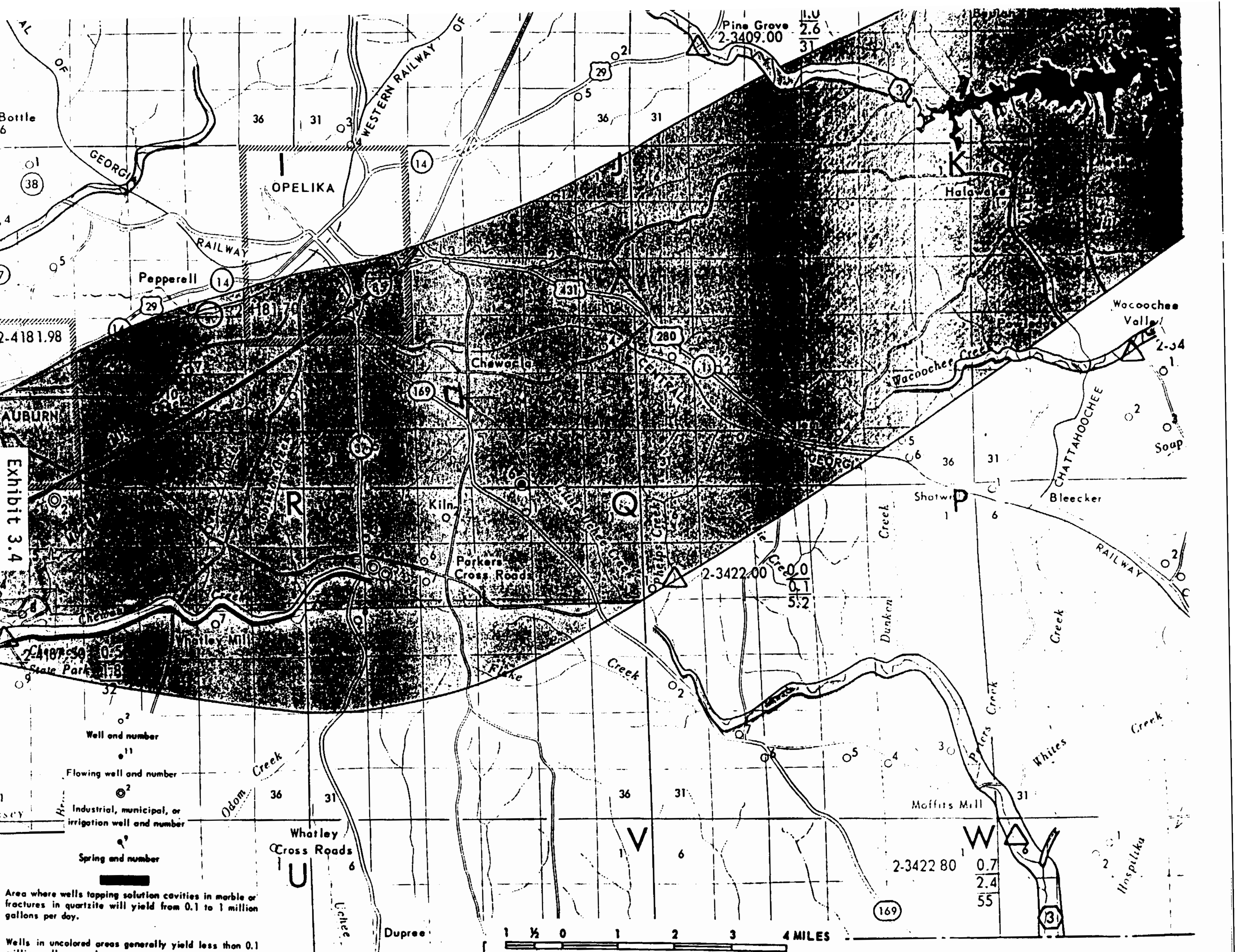


Exhibit 3.4
Pine Grove
2-3409.00
2.6
31
OPELIKA
WESTERN RAILWAY
GEORGIA
RAILWAY
Pepperell
2-4181.70
2-4181.98
AUBURN
Chewacla
Halawaka
Wacoochee Valley
Wacoochee Creek
CHATTAHOOCHEE
Soap
Kiln
Parkers Cross Roads
2-3422.00
0.0
0.1
5.2
Shotwell
Bleecker
Whatley Mill
State Park
Flake
Creek
Dunken Creek
Odom Creek
Moffits Mill
Whites Creek
Hospilika
Whatley Cross Roads
Dupree
Uchee
2-3422.80
0.7
2.4
55
I
J
K
P
Q
R
U
V
W
Well and number
Flowing well and number
Industrial, municipal, or irrigation well and number
Spring and number
Area where wells tapping solution cavities in marble or fractures in quartzite will yield from 0.1 to 1 million gallons per day.
Wells in uncolored areas generally yield less than 0.1
1 ½ 0 1 2 3 4 MILES

Table 4.—*Chemical analyses of water from wells and springs in Lee County*—Continued

Number	Well owner	Date of collection	Water-bearing unit	Well depth (feet)	Milligrams per liter: Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	[1] Sodium (Na)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Noncarbonate	Specific conductance (micromhos at 25° C)	pH	Temperature °C	°F
I-3	Auburn Fisheries Research Unit.	3-28-68	Gn, Sc	200	.....	.25	....	....	....	56	0	......	1.8	.....	.....	......	19	0	99	6.8	18	64
I-4	....do	3-28-68	Gn, Sc	410	.....	.05	....	....	....	96	0	......	5.0	.....	.....	......	81	2	244	8.0	19	66
I-5	A. M. Pearson	2-14-68	Gn, Sc	125	.....	.11	....	....	....	41	0	......	16	.....	.....	......	56	22	227	6.4	17	63
I-6	A. D. Pugh	3-20-68	Qtz	127	.....	.05	....	....	....	82	0	......	.8	.....	.....	......	64	0	157	8.2	18	64
I-7	Homer Fletcher	3-20-68	Qtz	200	.....	.23	....	....	....	94	0	......	2.2	.....	.....	......	68	0	168	7.7	18	64
I-7	....do	12-17-68	Qtz	200	41	....	24	1.2	8.9	92	0	4.8	2.2	.2	.2	128	65	0	157	7.5	..	..
I-8	J. D. Capps	4-18-68	Qtz(?)	121	.....	.45	....	....	....	37	0	......	4.0	.....	.....	......	31	1	98	6.6	19	66
[2] I-11	Auburn Athletic Dept	5-25-62	Qtz(?)	234	21	1.1	19.9	1.5	....	4.6	.....	11.9	12.4	.....	.....	[3] 106	60	....	....	8.4	..	..
J-1	Woodrow Pratt	4- 5-68	Qtz(?)	55	.....	.90	....	....	....	21	0	......	3.6	.....	.....	......	30	13	90	6.4	17	62
J-2	B. N. Houston	5-17-68	Qtz	65	.....	.02	....	....	....	28	0	......	2.6	.....	.....	......	19	0	72	7.2	..	..
J-3	Pines Motel	3-29-68	Qtz	123	.....	.05	....	....	....	29	0	......	2.6	.....	.....	......	18	0	59	7.4	18	65
J-4	Roy E. Plott	3-19-68	Gn	200	.....	.10	....	....	....	16	0	......	.8	.....	.....	......	9	0	37	6.8	18	65
J-5	Paul Lisle	2-12-68	Gn	75	.....	.44	....	....	....	45	0	......	2.2	.....	.....	......	34	0	107	7.0	17	62
[4] J-6	City of Opelika	3-11-60	Mb	Spring	.....	.0	26.1	10.8	....	....	.....	.0	6	.....	.0	[3] 131	109	....	....	8.0	..	..
J-6	....do	4- 9-68	Mb	Spring	.....	.04	....	....	....	137	0	......	.2	.....	.....	......	116	4	218	8.0	17	62
K-2	D. A. Davis	5-17-68	Sc(?)	86	.....	.25	....	....	....	39	0	......	1.8	.....	.....	......	22	0	71	7.3	..	..
K-3	Salem School	4- 4-68	Sap	36	.....	.41	....	....	....	6	0	......	6.6	.....	.....	......	25	20	89	5.6	18	64
K-4	Wacoochee School	4- 4-68	Sc(?)	165	.....	.08	....	....	....	36	0	......	.6	.....	.....	......	29	0	81	6.8	18	64
K-4	....do	12-17-68	Sc(?)	165	30	.08	2.0	5.8	4.6	40	0	5.4	.....	.2	.0	68	29	0	83	7.2	..	..
K-5	W. L. Hargott	4- 4-68	Myl, Am	72	.....	.42	....	....	....	93	0	......	1.6	.....	.....	......	75	0	170	7.6	17	63
K-6	....do	5-16-68	Am	140	.....	.82	....	....	....	57	0	......	3.2	.....	.....	......	32	0	99	6.8	..	..
L-1	Jack Johnson	4- 9-68	Myl, Am	125	.....	.06	....	....	....	180	0	......	5.6	.....	.....	......	128	0	303	7.3	18	65
L-1	....do	12-17-68	Myl, Am	125	44	.02	24	17	20	195	0	5.4	4.6	.4	.0	211	129	0	306	7.8	..	..
L-2	P. E. Hall	5-16-68	Myl(?)	189	.....	.14	....	....	....	169	14	......	4.0	.....	.....	......	135	0	298	8.5	..	..
L-3	Charles Hill	5-16-68	Myl(?)	150	.....	.77	....	....	....	190	0	......	19	.....	.....	......	168	12	397	7.7	18	65
L-4	L. R. Musser	4-10-68	Gn	187	.....	.05	....	....	....	167	0	......	9.0	.....	.....	......	110	0	302	7.7	..	..
N-1	S. E. Musser	2- 7-68	Mig, Gn	333	.....	.29	....	....	....	81	0	......	1.2	.....	.....	......	54	0	155	7.2	18	65
O-1	W. A. Ashcraft	5-17-68	Am(?)	106	.....	.05	....	....	....	32	0	......	3.8	.....	.....	......	19	0	59	7.2	..	..
O-2	Trackside Oil Co	2- 8-68	Gn	180	.....	.57	....	....	....	5	0	......	1.0	.....	.....	......	8	4	30	6.0	17	63
O-2	....do	12-17-68	Gn	180	8.9	.29	1.0	2.1	3.9	11	0	.6	2.4	.1	8.0	32	11	2	36	6.8	..	..
O-3	B. R. Flowers	2- 8-68	Gn(?), Mig(?)	147	.....	.29	....	....	....	17	0	......	1.4	.....	.....	......	14	0	37	6.1	17	62
O-4	Charles Reeder	2- 8-68	Mig, Gn	261	.....	.22	....	....	....	49	0	......	.6	.....	.....	......	32	0	104	7.0	17	63
O-5	C. D. Sparks	2- 8-68	Mig, Gn	150	.....	.19	....	....	....	110	0	......	12	.....	.....	......	92	2	258	7.7	..	..
O-6	Calvin Green	2- 8-68	Mig	105	.....	.27	....	....	....	64	0	......	.8	.....	.....	......	39	0	133	7.2	17	63
P-1	Roy Lowe	4- 9-68	Gn, Myl	113	.....	.06	....	....	....	30	0	......	13	.....	.....	......	51	26	154	6.6	19	66
P-2	South Georgia Gas Co	2- 9-68	Gn, Myl	420	.....	.11	....	....	....	39	0	......	2.2	.....	.....	......	30	0	87	7.0	17	63
P-3	J. D. Stillwell	2- 9-68	Mig, Gn	265	.....	.08	....	....	....	26	0	......	.8	.....	.....	......	16	0	62	7.3	17	62
P-4	Mrs. Hodge P. Allen	2- 9-68	Gn, Mig	175	.....	.16	....	....	....	69	0	......	11	.....	.....	......	80	23	270	7.6	17	63

ALABAMA STATE BOARD OF HEALTH

REPORT OF DATA

PUBLIC WATER SUPPLY

City *Opelika* Sheet No. .... of ....

Date *Feb. 19,* 19*42* Investigator ....

GENERAL DATA

City *Opelika* County *Lee*

Last Official Census *8847 (1940)* Present Est. Population ....

Mayor *John S. Crossley (Pres. City Com.)* City Clerk *T. C. Tollison*

Owner of Waterworks *City* Date Installed ....

Manager ~~*R. C. Butler*~~ *S. R. Bennett* ~~*Kenneth Huling*~~ Plant Operator ~~*R. C. Butler*~~ *Kenneth Huling*

Location of Plant (relative to city) *near center of city*

Source (Surface, Well, Springs, etc.) *Spring Villa about 7 miles southeast of City.*

Gallons pumped per day ~~*1,000,000*~~ *1,500,000* Plant Capacity *New Plant. 3.0 M.G.D.* [illegible]

TREATMENT:—

Settled .... Coagulated ....

Mineral Removal .... Softened ....

Filtered .... Disinfected ✓

PRESSURE:—

Direct .... Standpipe ✓

Elev. Tank .... Press. Reservoir ....

Power Used:—Steam .... Elec. ✓ Int. Comb. Engine ....

Power Furnished by: *Ala. Power Co. to City*

Number Services *1400* Percent Metered *100%* Rates *First 10,000 - 40¢ (1.00 min.) Next 10,000 - 30¢ " 10,000 - 25¢ " 20,000 - 20¢ " 25,000 - 15¢ " 25,000 - 12½¢ " 400,000 - 11¢*

Number People Served *7,000* Percent of Pop. Served ....

Other sources of Supply: (State if any other supply is available through cross connection and if so, give description of treatment accorded to water and nature of connection.) *No other source reported.*

REMARKS: (Include Adequacy of the Supply) *Supplies water to Pepperal Mills and their village. At times the supply is low.*

City .... Sheet No. ...... of ......

SPRING SUPPLY

Number of Springs ...... Names Spring Villa

Surface Drainage Area Above Springs about 5 miles. Acres

Percent Drainage Area Controlled by Waterworks 1/4 Acre fenced.

Population on Area Sparcely settled. Number of Houses ......

Sanitation of Houses (Privies, Septic Tanks, Etc.) ......

Nature of Shed:

Cultivated ......% Timber ......%

Meadow ......% Swamp ......%

Fenced ......% Patrolled ......%

Describe Spring Protection Concrete basin down to rock and extending 18" above ground. Basin 90' x 55' x 8' deep.

Sanitary Conditions Around Spring: Drainage ditches on both sides of spring about 30' from collecting basin. Ground slopes to ditches.

Flow from each Spring ......

Combined Flow ......

Describe Collecting System ......

Describe Overflow 2-12" cast iron pipes located about 2½' above bottom with flap valves.

Distance to Nearest Stream ...... Relative Elevs. ......

Can flood water get into spring? Normally water does not enter, however flood water has covered the entire basin.

Pump or gravity flow to town? Pump.

REMARKS (Undesirable features, sources of pollution, etc.) ......

Pumps. #1. American Well Works, 1,000 g.p.m. two stage 6" Centrifugal directly connected to 150 H.P., 1750 r.p.m. Westinghouse motor.

#2 American Well Works 1,000 g.p.m. three state 6" centrifugal 1200 r.p.m. directly connected to 225 H.P., 6 cylinder Sterling gas engine.

City .... Sheet No. ...... of ......

~~PRESSURE~~ RESERVOIR

(Standpipe ~~or Elevated Tank~~)

Installed .... Covered No.

Material Steel .... Capacity 112,000 gal

Heighth: Tower None .... Tank 95'

Length .... Width .... Diameter 18'

Size Inlet 10" .... Size Outlet Same.

When Cleaned .... Deposit ....

Average Pressure in Town 50 #A"

Two Surface Storage ~~CLEAR WATER~~ RESERVOIRs in City.

Material Concrete. .... Date Built ....

Sanitary Features ....

Roof Concrete. .... Ventilation Two Concrete screened Vents for each

Length #2 60' #1 - 50' .... Width #2 40' #1 - 11'

Diameter .... Depth #2 - 11'

Capacity #1-233,000 gal. #2-200,000 gal Total 433,000 gal. Drain (No., size, location) Each has 12" C.I. drain

Discharge from drain into ....

When Cleaned .... Deposit ....

REMARKS: Water from the spring enters one reservoir and flows through a connecting pipe to other in normal operating procedure. However, either one may be used separately.

No. 5—10-34.

City .... Sheet No. .... of ....

TREATMENT PLANT

Chemical Solution Tanks

	Alum	Soda Ash	Lime	Iron	Hypo.
Number of Tanks					
Length and Width or Diameter					
Depth					
Capacity (Gal.)					
Lbs. Chemicals per Charge					
Percent Solution					
Materials of Construction					
No. Orifice Boxes					
Type Orifice Boxes					

Dry Feed Machines

Number .... **Type** .... **Location** ....

....

Chlorinator

Number 1 W.+T. **Location** ~~Pum~~ House next to Surface Reservoir **When Installed** 1939.

Protection Elect. heater.

~~Chlorine~~

General

Pipe material and sizes to points of application ....

....

Gravity or force feed ....

Chemical Dosages

	Raw	Settled	Filtered	Finished
Chemical				
Alum or Iron P. P. M.				
Lime or Soda P. P. M.				
Sodium Aluminate P. P. M.				
Chlorine ~~or Hypo~~ P. P. M.				✓

Remarks Chlorine applied to water in spring pump discharge line as it enters the surface storage reservoirs.

• City ______ S.. et No. ______ of ______

MOTOR DRIVEN PUMPS

RAW WATER:

Pump Manufacturer ______ Date Installed ______

Type and Size ______ Rated Capacity ______ g.p.m.

R. P. M. or Strokes ______ How Connected ______

Motor Manufacturer and Type ______ H. P. ______

Current: ______ Phase ______ Cycle ______ Volts ______ r.p.m.

Pump Manufacturer ______ Date Installed ______

Type and Size ______ Rated Capacity ______ g.p.m.

R. P. M. or Strokes ______ How Connected ______

Motor Manufacturer and Type ______ H. P. ______

Current: ______ Phase ______ Cycle ______ Volts ______ r.p.m.

HIGH PRESSURE:

Pump Manufacturer Worthington Date Installed ______

Type and Size 2 stage 6" Centrifugal. Rated Capacity 750 g.p.m.

R. P. M. or Strokes 1760 How Connected direct

Motor Manufacturer and Type Westinghouse. H. P. 75

Current: 3 Phase 60 Cycle 2200 Volts 1760 r.p.m.

Pump Manufacturer Worthington. Date Installed ______

Type and Size 2 stage 6" centrifugal Rated Capacity 1000 g.p.m.

R. P. M. ~~or Strokes~~ 1745 How Connected Direct.

Motor Manufacturer and Type G. E. H. P. 150

Current: 3 Phase 60 Cycle 2200 Volts 1745 r.p.m.

High Pressure.
~~WASH WATER~~:

Pump Manufaceurer American Well Works Date Installed ______

Type and Size 3 stage 6" Centrifugal Rated Capacity 1000 g.p.m.

R. P. M. ~~or Strokes~~ 1200 How Connected Direct.

Engine. ~~Motor~~ Manufacturer and Type 6 cylinder Marine Engine H. P. 225

Current: ______ Phase ______ Cycle ______ Volts ______ r.p.m.

REMARKS: Gasoline Engine & pump used as stand-by.

No. 10—1/27

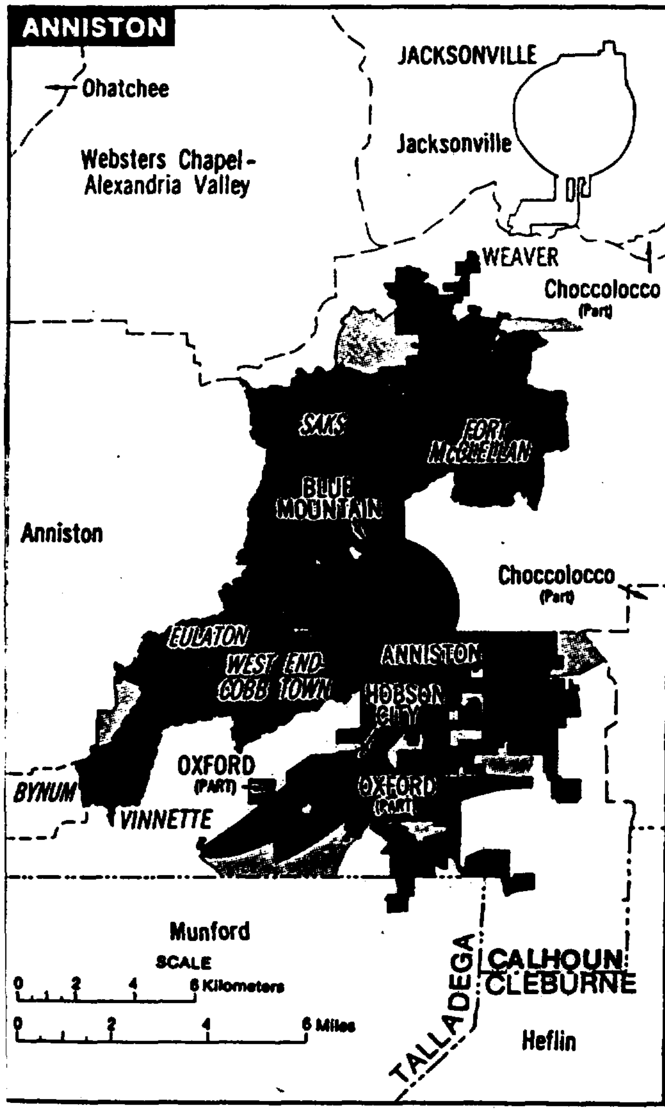
INSPECTIONS

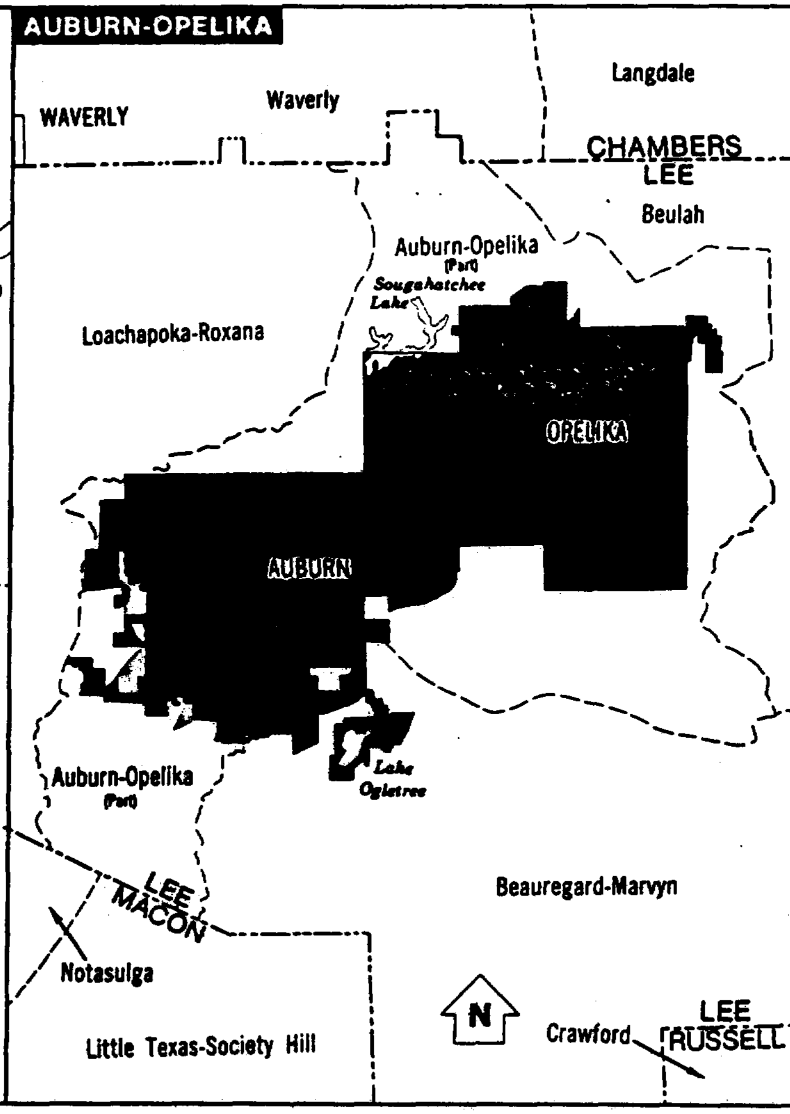
City...

State all unsatisfactory conditions that exist and recommendations made for correction; also, record changes made since last inspection.

Date:	
8/25/42.	Spring basin fairly free of algae. Watchman on duty. New Supt. instructed in making orthotolidine tests.
1/5/43	Visited with city clerk and plant [illegible]...

Urbanized Areas





MAP LEGEND

SYMBOLS	TYPE STYLES	GEOGRAPHIC AREAS
	MEXICO	Foreign country
	IOWA	State
	DANE	Subject SMSA county
	POWER	County not part of subject SMSA
	Locust	County subdivision
	SILAS	Incorporated place
	PERDIDO	Census designated place
	Pyramit	American Indian reservation
	Lake Wingra	Major water feature

Note: All political boundaries are as of January 1, 1980. Boundaries of small areas may not be depicted exactly due to scale of map. Where boundaries coincide, boundary symbol of higher level geographic area is shown.

SYMBOLS	GEOGRAPHIC AREAS
✿	Open six-spoked asterisk following place name indicates the place is coextensive with a county subdivision. The county subdivision name is shown only when it differs from that of the place.
✱	Solid eight-spoked asterisk following an incorporated place name indicates the place is treated as a county subdivision for census purposes.

COMPONENTS OF URBANIZED LAND AREA

■	Incorporated place
■	Census designated place
▒	Other area

U.S. Department of Commerce

BUREAU OF THE CENSUS

Exhibit 3.7

MODEL STATE INFORMATION SYSTEM
PUBLIC WATER SYSTEM INVENTORY SUBSYSTEM

PWSI061 01.01

DATE 11/27/84

PWS INVENTORY REPORT

S E L E C T I O N   E X T R A C T   F I L E

PWS-ID 0000615

SYSTEM NAME............OPELIKA WATER WORKS BOAR
PLANT TYPE.............COMMUNITY
ACTIVITY CODE..........ACTIVE
REGULATE BY............REGULATED BY STATE
CONSECUTIVE INDICATOR..NOT CONSECUTIVE
DEACTIVATION REASON....
REPORT REQUIRED........NO
INTERSTATE CARRIER.....NO

POPULATION SERVED......................23,460
PLANT BEGIN DATE.......................05/77
COMPLIANCE CYCLE.......................17
NUMBER OF CONSECUTIVE PWS..............1
DEACTIVATION DATE......................00/00/00
LAST REPORT DATE.......................00/00
LAST UPDATE DATE.......................11/19/84

SOURCE DATA

SOURCE ID 01
NAME: SAUSAHATCHEE LK
CODE: SURFACE WATER
NUMBER OF WELLS.....
WELL BEGIN DATE..00/00
SELLER ID......
AVAILABILITY: PERMANENT SOURCE
RIVER BASIN :
LATITUDE 032.39.54   LONGITUDE 085.25.03

TREATMENTS: AERATION.........0   SEDIMENTATION......1   SOFTENING.....0   AMMONIATION..........0   UNTREATED..
PRECHLORINATION..1   FILTRATION.........1   TASTE/ODOR....1   FLUORIDE ADJUSTMENT..1   OTHER......
COAGULATION......1   CORROSION CONTROL..1   IRON REMOVAL..0   DISINFECTION.........1

SOURCE ID 02
NAME: SPRING 1100GPM
CODE: GROUND WATER
NUMBER OF WELLS.....
WELL BEGIN DATE..00/00
SELLER ID......
AVAILABILITY: PERMANENT SOURCE
RIVER BASIN :
LATITUDE . .   LONGITUDE . .

TREATMENTS: AERATION.........0   SEDIMENTATION......1   SOFTENING.....0   AMMONIATION..........0   UNTREATED..
PRECHLORINATION..1   FILTRATION.........1   TASTE/ODOR....1   FLUORIDE ADJUSTMENT..1   OTHER......
COAGULATION......1   CORROSION CONTROL..1   IRON REMOVAL..0   DISINFECTION.........1

SOURCE ID 03
NAME: AUBURN
CODE: PURCHASED WATER-SURFACE SOURCE
NUMBER OF WELLS.....
WELL BEGIN DATE..00/00
SELLER ID......
AVAILABILITY: EMERGENCY SOURCE
RIVER BASIN :
LATITUDE . .   LONGITUDE . .

TREATMENTS: AERATION.........0   SEDIMENTATION......0   SOFTENING.....0   AMMONIATION..........0   UNTREATED..
PRECHLORINATION..0   FILTRATION.........0   TASTE/ODOR....0   FLUORIDE ADJUSTMENT..0   OTHER......
COAGULATION......0   CORROSION CONTROL..0   IRON REMOVAL..0   DISINFECTION.........0

PRIMARY SOURCE.........SURFACE WATER
NUMBER OF SOURCES..............................3

ADDRESS DATA

OWNER NAME: OPELIKA WATER WORKS BOARD
OWNER NAME LINE2: J PALMER DUNCAN, CHAIRMAN
OWNER ADDRESS: P O BOX 1029
OPELIKA   AL   36801
OWNER TYPE: MUNICIPALITY

MAILING NAME: OPELIKA WATER WORKS BOARD
MAILING NAME LINE2: ATTN W FLORENCE, SUPT.
MAILING ADDRESS: P O BOX 1029
OPELIKA   AL   36801

PLANT AREA CITY NAME	MANUAL FILE REF	PHONE NUMBER	POSTAL CODE
CHMAN 7454651	027D1R 27D1R	205-745-6275	AL

COUNTY: LEE
REGION: SOUTHEAST REGION
DISTRICT:

Exhibit C

UNIROYAL
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

September 17, 1984

Mr. Ashley Chadwick
Alabama Department of Environmental Management
1751 Federal Drive
Montgomery, Alabama 36130

Dear Mr. Chadwick:

Enclosed are copies of the test results from the ten (10) drums of unknown materials. As you see, several have hazardous characteristics. We are proceeding to submit samples to Chemical Waste Management for disposal.

Subsequent to this series of unknown materials, we have discovered somemore, including the two spills you requested analysis on, which we are processing.

Thank you for helping us with our program.

Very truly yours,

P.D. Peterson

P. D. Peterson, P.E.
Sr. Facilities Engineer

/eh

Enc.

HARMON ENGINEERING & TESTING

AUBURN INDUSTRIAL PARK, AUBURN, AL 36830-4399 (205) 821-9250

LABORATORY RESULTS

Uniroyal
Post Office Box 30
Opelika, AL 36803-0030

Attention: Mr. Palmer Petersen

HE&T PROJECT 623-04

DATE SAMPLE RECEIVED 8-7-84

DATE DATA TRANSMITTED 9-5-84

CLIENT JOB REFERENCE ______

HE&T Sample Number	Client Sample Identification	As mg/L	Ba mg/L	Cd mg/L	Cr mg/L	Pb mg/L	Hg mg/L	Se mg/L	Ag mg/L
10834	1	<0.1	<1	0.21	<0.1	<0.02	<0.1	0.01	<0.1
10835	2	0.1	<1	<0.01	0.1	<0.005	0.5	0.02	0.1
10836	3	<0.1	<1	<0.01	<0.1	<0.02	<0.1	0.04	0.1
10837	4	<0.1	<1	0.01	0.5	<0.03	11.8	0.03	<0.1
10838	5	<0.1	<1	<0.01	<0.1	<0.005	<0.1	0.03	<0.1
10839	6	<0.1	<1	<0.01	0.5	<0.01	<0.1	0.06	<0.1
10840	7	<0.1	<1	<0.01	<0.1	<0.005	<0.1	0.03	<0.1
10841	8	<0.1	<1	0.01	0.1	<0.01	1.1	0.06	0.4
10842	9	0.1	<1	<0.01	1.6	<0.005	<0.1	0.03	<0.1
10843	10	<0.1	<1	<0.01	<0.1	<0.005	0.1	<0.01	<0.1
ALLOWABLE CONCENTRATION		5.0	100	1.0	5.0	5.0	0.2	1.0	5.0

Approved for Transmittal

Terrence A White

Laboratory Manager

HARMON ENGINEERING & TESTING

AUBURN INDUSTRIAL PARK, AUBURN, AL 36830-4399 (205) 821-9250

LABORATORY RESULTS

Uniroyal
Post Office Box 30
Opelika, AL 36803-0030

HE&T PROJECT 623-04

DATE SAMPLE RECEIVED 8-7-84

DATE DATA TRANSMITTED 9-5-84

Attention: Mr. Palmer Petersen

CLIENT JOB REFERENCE ______

HE&T Sample Number	Client Sample Identification	FLASH POINT	CORROSIVITY pH S.U.	REACTIVITY CHEMICAL	REACTIVITY PHYSICAL	REACTIVITY THERMAL
10834	1	>100°C	5.5	-	-	-
10835	2	>100°C	11.6	-	-	-
10836	3	>100°C	4.6	-	-	-
10837	4	>100°C	1.2	-	-	-
10838	5	49°C	2.1	-	-	-
10839	6	52.5°C	2.2	-	-	-
10840	7	12.5°C	9.1	-	-	-
10841	8	42°C	10.4	-	-	-
10842	9	76°C	6.1	-	-	-
10843	10	>100°C	10.8	-	-	-

60°C = 140°F

Approved for Transmittal

Laboratory Manager

Uniroyal, Inc.

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
LAND PROGRAM
1982 Hazardous Waste Generator and On-Site TSD Facility Annual Report

NOTE: Read all instructions prior to completing this form.

I. Installation EPA ID Number: ALD041511301

II. Name of Installation: Uniroyal, Inc.

III. Location of Installation: Highway 169 & Uniroyal Road
(Street or Route Number)

Opelika (City or Town) Lee (County) Alabama (State) 36801 (Zip Code)

IV. Installation Contact: Palmer D. Peterson (Name) 205-745-6411, Ext. 406 or 231 (Area Code) (Telephone Number)

V. Waste Identification:

Line Number	A. EPA Waste Number	B. Description of Waste	C. Quantity Generated (LBS)	D. Amount of Waste by Handling Method: 1. Handling Method Code	2. Quantity Stored, Treated Disposed, or Recovered On-Site	Shipped to Off-Site Treatment Disposal, or Recovery Facility: 3. Quantity	4. Facility EPA ID No./Recovery Facility Name
1.	D003	Waste Rubber Cement	810	501	0	801	Hazardous Waste Man.
2.							
3.							
4.							
5.							

(If more space is needed, check ☐ and complete Attachment I)

VI. Closure Cost Estimate for Facilities $ (Not a TDS Facility)

VII. Cost Estimate for Post-Closure Monitoring and Maintenance (Disposal Facility Only) $ -

VIII. Certification:

[signature] (Signature) J. M. Lane (Print or Type Name) Plant Manager (Title)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including ...

LAND PROGRAM

19____ Hazardous Waste Generators Annual Report

I. Facility ID # ALD041511361

II. Facility Name UNIROYAL TIRE COMPANY

III. Location of Facility P. O. BOX 30
(Street or Route Number)

OPELIKA	LEE	ALABAMA	36801
City	County	State	Zip Code

MAR 1984 RECEIVED ADEM Land Division

Installation Contact P. D. PETERSON   205 - 745-6411 EXT. 215
Name   Area Code   Telephone Number

V. During 19 83 the facility did [X] did not [ ] generate reportable amounts of hazardous waste. (If you check did not, skip to item VII.)

VI. Waste Identification:

	A. EPA Waste Number	B. Waste Description	C. Amount of Waste (lbs)	D. Receiving Facility	E. Receiving Facility ID Number	F. Transporter Name	G. Transporter ID Number
1.	D001	RUBBER CEMENT	24,640	W. MANAGEMENT	ALD000622464	H. DANIEL	ALD050978055
2.							
3.	-	WASTE OIL	108,240	W. MANAGEMENT	ALD000622464		
4.							
5.							
6.							

VII. Certification:

Signature R.D. P[illegible]   P. D. PETERSON
(Print or Type)

Title ENVIRONMENTAL ENGINEER

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P O Box 20382
106 Upton Dr
Jackson Ms 39209
601 922-8242

7215 Pine Forest Rd.
Pensacola, Fl 32506
904 944-0301

ANALYTICAL REPORT

Date: March 25, 1985

Site: Uniroyal, Inc.
Opelika, Alabama

Matrix: Soil, Sediment and Water

Client: Alabama Department of
Environmental Management

Date Received: January 11, 1985

EPS Lab No.	EPS Field Identification
85010198	UNR-S01-BG
85010199	UNR-WA1-APD
85010200	UNR-SD3-APD
85010201	UNR-SD4-APD
85010202	UNR-SD1-OPD
85010203	UNR-SD2-OPD
85010204	UNR-WA2-OPD

Attached sheets list results of our analysis of above samples for: Ignitability, Mercury, Base/Neutral Extractables, Acid Extractables and Benzothiazole

Analytical Reference No.: 85.1.460

Associate Director of Analytical Services

Exhibit 5.1

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

P O Box 20382
106 Upton Dr
Jackson, Ms 39209
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7215 Pine Forest Rd
Pensacola, Fl 32506
904 944 0301

ANALYTICAL REPORT

Date: March 25, 1985

Site: Uniroyal, Inc.
Opelika, Alabama

Matrix: Soil, Sediment and Water

Client: Alabama Department of Environmental Management

Date Received: January 11, 1985

Spiking and Recovery Data

EPS Lab No. 85010205

Parameter	Spiking Level (ppm)	Percent (%) Recovery
Mercury	0.002	104.9
Hexachlorobenzene	10.0	99.0
Pentachlorophenol	25.0	88.0

Associate Director of Analytical Services

ENVIRONMENTAL PROTECTION SYSTEMS, INC.
P.O. Box 20382 • 160 Upton Drive • Jackson, MS 39209
Telephone: (601) 922-8242
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LABORATORY REPORT

85.1.460 1/2

CLIENT:	Alabama Dept. of Environmental Mgmt.	COLLECTED BY:	EPS (174)
LOCATION:	Montgomery, AL	DATE COLLECTED:	01/09/85
DATE:	03/27/85	DATE RECEIVED:	01/11/85
INVOICE NO.:	To be invoiced/pm	DATE ANALYZED:	03/25/85

LABORATORY SAMPLE IDENTIFICATION

85010198 - UNR-S01-BG
85010199 - UNR-WA1-APD
85010200 - UNR-SD3-APD
85010201 - UNR-SD4-APD

ANALYSES	IDENTIFICATION NUMBER 0198	0199	0200	0201
Mercury, Total, mg/kg	<0.001		<0.001	<0.001
Ignitability, °F			>140	>140
"EP TOXICITY" Extraction	Yes		Yes	Yes
Benzothiazole, ppm	<0.01	<0.01	<0.01	<0.01
All others in Base/Neutrals Extractables, Screen 110, ppm	<0.01	<0.01	<0.01	<0.01
Acid Extractables, Screen 111, ppm	<0.01	<0.01	<0.01	<0.01

COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, May, 1980, Test Methods for Evaluating Solid Waste. All samples collected under RCRA 3102 Program at Uniroyal, Inc., Opelika, Alabama.

CERTIFICATION

Herbert A. Johnston
MANAGER, CHEMICAL LABORATORY

DIRECTOR, ANALYTICAL SERVICES

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LABORATORY REPORT

85.1.460 2/2

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LABORATORY SAMPLE IDENTIFICATION

85010202 - UNR-SD1-OPD
85010203 - UNR-SD2-OPD
85010204 - UNR-WA2-OPD

ANALYSES	IDENTIFICATION NUMBER 0202	0203	0204	
Mercury, Total, mg/kg	<0.001			
Ignitability, ^{o}F	>140			
"EP TOXICITY" Extraction	Yes			
Benzothiazole, pp.	<0.01	<0.01		
All others in Base/Neutrals Extractables, Screen 110, ppm	<0.01	<0.01	*	
Acid Extractables, Screen 111, ppm	<0.01	<0.01	<0.01	

COMMENT

Analyses conducted in accordance with 40 CFR, Part 261, May, 1980, Test Methods for Evaluating Solid Waste. All samples collected under RCRA 3102 Program at Uniroyal, Inc., Opelika, Alabama. *Sample exploded during laboratory preparation.

CERTIFICATION

Herbert A. Johnston
MANAGER, CHEMICAL LABORATORY

DIRECTOR, ANALYTICAL SERVICES

p-BENZOQUINON-2,5-YLENEBIS (IMINOTRIMETHYLENE))BIS (BENZYLDIETHYLAMMONIUM DICHLORIDE)

CAS RN: 311091 NIOSH #: BO 4900000
mf: $C_{34}H_{50}N_4O_2 \cdot 2Cl$; mw: 617.78

SYNS:
BENZOQUINONE, 2,5-BIS(3-DIETHYLAMINOPROPYLAMINO), BIS-BENZYLCHLORIDE
BENZOQUINONIUM CHLORIDE
2,5-BIS(3-DIETHYLAMINOPROPYLAMINO)BENZOQUINONEBIS(BENZYL CHLORIDE)

TOXICITY DATA: 3-2

	CODEN:
orl-rat LDLo:450 mg/kg	JPETAB 100,333,50
scu-rat LDLo:2600 ug/kg	JPETAB 100,333,50
orl-mus LD50:140 mg/kg	JPETAB 100,333,50
scu-mus LD50:2500 ug/kg	JPETAB 100,333,50
ivn-mus LD50:600 ug/kg	JPETAB 100,333,50
orl-dog LDLo:5500 ug/kg	JPETAB 100,333,50
ivn-dog LDLo:100 ug/kg	JPETAB 100,333,50
ims-dog LDLo:150 ug/kg	JPETAB 100,333,50
orl-cat LDLo:11 mg/kg	JPETAB 100,333,50
ivn-rbt LD50:42 ug/kg	JPETAB 100,333,50

THR: HIGH scu, orl, ivn, ims. MOD orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and Cl^-.

BENZO-1,2,3-THIADIAZOLE-1,1-DIOXIDE

mf: $C_6H_4N_2O_2S$; mw: 164.22

Explosion Hazard: The solid explodes at 60°, on impact or friction and sometimes spont.

BENZOTHIAZIDE

CAS RN: 91338 NIOSH #: DK 8400000
mf: $C_{15}H_{14}ClN_3O_4S_3$; mw: 431.95

SYNS:
AQUATAG
3-((BENZYLTHIO)METHYL)-6-CHLORO-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-2H-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-7-SULFAMOYL-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-7-SULFAMYL-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE
3-BENZYLTHIOMETHYL-6-CHLORO-7-SULFAMYL-2H-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE

TOXICITY DATA: 3

	CODEN:
ivn-rat LD50:422 mg/kg	JPETAB 128,122,60
ivn-mus LD50:410 mg/kg	12VXA5 8,137,68
ivn-dog LDLo:200 mg/kg	JPETAB 128,122,60

THR: HIGH ivn.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x, NO_x and Cl^-.

BENZOTHIAZOLE ★

CAS RN: 95169 NIOSH #: DL 0875000
mf: C_7H_5NS; mw: 135.19

Liquid, odor of quinoline, slightly water sol. d: 1.246 @ 20°/4°, bp: 228° @ 765 mm.

SYNS:
BENZOSULFONAZOLE
1-THIA-3-AZAINDENE
USAF EK-4812

TOXICITY DATA: 3

	CODEN:
orl-mus LD50:900 mg/kg	DCTODJ 3,249,80
ipr-mus LD50:100 mg/kg	NTIS** AD277-689
ivn-mus LD50:95 mg/kg	JPETAB 105,486,52

Reported in EPA TSCA Inventory, 1980.
THR: HIGH ipr, ivn. MOD orl.
Disaster Hazard: Dangerous; see sulfides, cyanides, NO_x.

BENZOTHIAZOLE DISULFIDE

CAS RN: 120785 NIOSH #: DL 4550000
mf: $C_{14}H_8N_2S_4$; mw: 332.48

Cream to light yellow powder; mp: 175°, d: 1.5.

SYNS:
2-BENZOTHIAZOLYL DISULFIDE
BIS(BENZOTHIAZOLYL) DISULFIDE
BIS(2-BENZOTHIAZYL) DISULFIDE
DI-2-BENZOTHIAZOLYL DISULFIDE
2,2'-DIBENZOTHIAZYL DISULFIDE
DIBENZOYLTHIAZYL DISULFIDE
DIBENZTHIAZYL DISULFIDE
2,2'-DITHIOBIS(BENZOTHIAZOLE)
2-MERCAPTOBENZOTHIAZOLE DISULFIDE
2-MERCAPTOBENZOTHIAZYL DISULFIDE

TOXICITY DATA: 3

	CODEN:
orl-mus TDLo:172 gm/kg/78W-I:ETA	NTIS** PB223-159
orl-rat LD50:7 gm/kg	RCTEA4 44(2),513,71
orl-mus LD50:12 gm/kg	TXAPA9 42,417,77
ipr-mus LDLo:100 mg/kg	NTIS** AD277-689
ivn-mus LD50:180 mg/kg	CSLNX* NX#02251

Reported in EPA TSCA Inventory, 1980.
THR: An exp ETA. HIGH ivn; LOW orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

2-BENZOTHIAZOLETHIOL

CAS RN: 149304 NIOSH #: DL 6475000
mf: $C_7H_5NS_2$; mw: 167.25

Light yellow powder. mp: 170°, d: 1.42 @ 25°.

SYNS:
2-MERCAPTOBENZOTHIAZOLE
NCI-C56519
USAF GY-3
USAF XR-29

TOXICITY DATA: 3

	CODEN:
orl-mus TDLo:35 gm/kg/78W-I:ETA	NTIS** PB223-159
scu-mus TDLo:215 mg/kg:CARC	NTIS** PB223-159
orl-rat LD50:100 mg/kg	JPETAB 90,260,47
orl-mus LD50:1851 mg/kg	VCTDC*
ipr-mus LD50:150 mg/kg	NTIS** AD277-689

Toxicology Review: JOCMA7 15(10),808,73; 27ZTAP 3,90,69. Currently Tested by NTP for Carcinogenesis by Standard Bioassay Protocol as of December 1980. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: An exper CARC, ETA. HIGH orl, ipr; MOD orl.
Disaster Hazard: Dangerous; when heated to decomp,

Exhibit 6.0

or on contact with acid or acid fumes, emits highly tox SO_x and NO_x.
Incomp: Oxidizing materials.

2-BENZOTHIAZOLYL-N,N-DIETHYLTHIOCARBAMYL SULFIDE

CAS RN: 95307 NIOSH #: EZ 4950000
mf: $C_{12}H_{14}N_2S_3$; mw: 282.46

SYNS:
2-(N,N-DIETHYLDITHIOCARBAMYL)BENZOATHIAZOLE
ETHYLAC

TOXICITY DATA: 2 CODEN:
orl-rbt LD50:2700 mg/kg RCTEA4 44(2),513,71

Reported in EPA TSCA Inventory, 1980.
THR: MOD orl. See also sulfides.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

1-(2-BENZOTHIAZOLYL)-1,3-DIMETHYL-3-NITROSOUREA

NIOSH #: YR 8980020
mf: $C_{10}H_{10}N_4O_2S$; mw: 250.30

SYN: NITROSOMETHABENZTHIAZURON

TOXICITY DATA: CODEN:
mmo-sat 1 uL/plate MUREAV 48,225,77

THR: MUT data.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

2-BENZOTHIAZOLYL MORPHOLINO DISULFIDE

CAS RN: 95329 NIOSH #: DL 5800000
mf: $C_{11}H_{12}N_2OS_3$; mw: 284.43

SYNS:
2-(MORPHOLINODITHIO)BENZOTHIAZOLE
MORPHOLINO-2-BENZOTHIAZOLYL DISULFIDE
N-MORPHOLINYL-2-BENZOTHIAZOLYL DISULFIDE
4-MORPHOLINYL-2-BENZOTHIAZYL DISULFIDE
N-OXYDIETHYL-2-BENZOTHIAZOLSULFENAMID (CZECH)
SULFENAX MOB (CZECH)

TOXICITY DATA: 1 CODEN:
eye-rbt 100 mg/24H SEV 28ZPAK -,203,72
orl-rat LD50:11500 mg/kg 28ZPAK -,203,72

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: LOW orl. SEV rbt eye irr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

2-BENZOTHIAZOLYL-N-MORPHOLINO SULFIDE

CAS RN: 102772 NIOSH #: DL 5950000
mf: $C_{11}H_{12}N_2OS_2$; mw: 252.37

SYNS:
2-BENZOTHIAZOLYLSULFENYL MORPHOLINE
4-(2-BENZOTHIAZOLYLTHIO) MORPHOLINE
2-(MORPHOLINOTHIO)BENZOTHIAZOLE
MORPHOLINYLMERCAPTOBENZOTHIAZOLE
2-(4-MORPHOLINYLTHIO)BENZOTHIAZOLE
N-(OXYDIETHYLENE)BENZOTHIAZOLE-2-SULFENAMIDE
USAF CY-7

TOXICITY DATA: 3 CODEN:
scu-mus TDLo:464 mg/kg:NEO NTIS** PB223-159
orl-mus LD50:1870 mg/kg 20ZJAG -,64,68
ipr-mus LD50:100 mg/kg NTIS** AD277-689

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: MOD orl; HIGH ipr. An exper NEO via scu route. See also sulfides.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

BENZO(b)THIEN-4-YL METHYLCARBAMATE

CAS RN: 1079330 NIOSH #: FB 4725000
mf: $C_{10}H_9NO_2S$; mw: 207.26

SYNS:
4-BENZOTHIENYL METHYLCARBAMATE
BENZO(B)THIOPHENE-4-OL, METHYLCARBAMATE
ENT-27041

TOXICITY DATA: 3-2 CODEN:
orl-rat LD50:70 mg/kg TXAPA9 11,546,67
ipr-rat LD50:40800 ug/kg BWHOA6 44(1-3),241,71
ivn-rat LD50:24800 ug/kg BWHOA6 44(1-3),241,71
unk-rat LD50:234 mg/kg 30ZDA9 -,192,71
orl-gpg LDLo:50 mg/kg JEENAI 60(3),733,67
scu-gpg LDLo:25 mg/kg JEENAI 60(3),733,67
orl-pgn LD50:273 mg/kg TXAPA9 20,57,71
orl-ckn LD50:85 mg/kg TXAPA9 11,49,67
orl-qal LD50:668 mg/kg TXAPA9 20,57,71
orl-dck LD50:1130 mg/kg TXAPA9 20,57,71
orl-bwd LD50:58 mg/kg TXAPA9 20,57,71

THR: HIGH orl, ipr, ivn, unk, scu. MOD orl. See also carbamates.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

(1)BENZOTHIOPYRANO(4,3-b)INDOLE

CAS RN: 239123 NIOSH #: DL 9890000
mf: $C_{15}H_9NS$; mw: 235.31

SYN: BENZ(B)INDOLO(2,3-D)THIOPYRAN

TOXICITY DATA: CODEN:
mma-sat 30 ug/plate MUREAV 66,307,79

THR: MUT data.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

6H-(1)BENZOTHIOPYRANO(4,3-b)QUINOLINE

CAS RN: 225570 NIOSH #: DM 0020000
mf: $C_{16}H_{11}NS$; mw: 249.34

SYN: N-NITROSO-N-(2-OXOBUTYL)BUTYLAMINE

TOXICITY DATA: 3	CODEN:
mma-sat 4 umol/plate	CNREA8 37,399,77
orl-rat TDLo:69 gm/kg/20W-C:ETA	GANNA2 67,825,76

THR: MUT data. An exper ETA.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

N-BUTYL-N-(3-OXOBUTYL)NITROSAMINE

CAS RN: 61734905 NIOSH #: EL 7060000
mf: $C_8H_{16}N_2O_2$; mw: 172.26

SYN: N-NITROSO-N-(3-OXOBUTYL)BUTYLAMINE

TOXICITY DATA: 3	CODEN:
mma-sat 4 umol/plate	CNREA8 37,399,77
orl-rat TDLo:69 gm/kg/20W-C:ETA	GANNA2 67,825,76

THR: MUT data. An exper ETA.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

BUTYL PARABEN

CAS RN: 94268 NIOSH #: DH 1980000
mf: $C_{11}H_{14}O_3$; mw: 194.25

SYNS:
BUTYL-p-HYDROXYBENZOATE
N-BUTYL PARAHYDROXYBENZOATE
p-HYDROXYBENZOIC ACID BUTYL ESTER

TOXICITY DATA: 3	CODEN:
skn-gpg 5%/48H MLD	JSCCA5 28,357,77
ipr-mus LD50:230 mg/kg	JSCCA5 28,357,77

THR: HIGH ipr. MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

t-BUTYL PERACETATE

CAS RN: 107711 NIOSH #: SD 8925000
mf: $C_6H_{12}O_3$; mw: 132.18

Clear, colorless benzene solution, insol in water, sol in organic solvents. d: 0.923, vap. press: 50 mm @ 26°, flash p: <80°F (COC).

SYN: t-BUTYL PEROXYACETATE

TOXICITY DATA: 2-1	CODEN:
eye-rbt 100 mg/1M rns MOD	ZAARAM 8,25,58
orl-mus LD50:632 mg/kg	TPKVAL 9,78,67
ihl-mus LCLo:6000 mg/m3	TPKVAL 9,78,67

Reported in EPA TSCA Inventory, 1980.
THR: MOD orl. LOW ihl. An eye irr. See also peroxides.
Incomp: Sensitive to shock and heat; can explode in contact with organic matter.
Fire Hazard: Dangerous via heat, flame, reducers.
To Fight Fire: Dry chemical, alcohol foam, spray and mist.
Explosion Hazard: Pure ester is shock sensitive and detonates. Explodes with great violence when rapidly heated to critical temp.

t-BUTYL PERBENZOATE

CAS RN: 614459 NIOSH #: SD 9450000
mf: $C_{11}H_{14}O_3$; mw: 194.25

Colorless to slight yellow liquid, mild aromatic odor. Insol in water, sol in organic solvents. bp: 112° (decomp), flash p: 19°, fp: 8°, vap. press: 0.33 mm @ 50°, d: 1.0+.

SYNS:
TERT-BUTYLPERBENZOAN (CZECH)
T-BUTYL PEROXY BENZOATE
PERBENZOATE DE BUTYLE TERTIAIRE (FRENCH)

TOXICITY DATA: 3	CODEN:
skn-rbt 500 mg/24H MLD	28ZPAK -,52,72
eye-rbt 100 mg/1M rns MLD	ZAARAM 8,25,58
unk-mus TDLo:311 mg/kg:ETA	RARSAM 3,193,63
orl-rat LDLo:4160 mg/kg	28ZPAK -,52,72
orl-mus LD50:2500 mg/kg	BSPII* 1/75-19B

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: An exper ETA. MOD orl. A skn, eye irr. See peroxides, organic.
Fire Hazard: See peroxides, organic. MOD.
Explosion Hazard: Dangerous in contact with organic matter.
Disaster Hazard: See peroxides, organic.
To Fight Fire: See peroxides, organic.

t-BUTYL PEROXIDE

CAS RN: 110054 NIOSH #: ER 2450000
mf: $C_8H_{18}O_2$; mw: 146.26

Clear, water white liquid. mp: −40°, bp: 80° @ 284 mm, flash p: 65°F (OC), d: 0.79, vap. press: 19.51 mm @ 20°, vap. d: 5.03.

SYNS:
DI-TERT-BUTYLPEROXID (GERMAN)
DI-T-BUTYL PEROXIDE
DI-TERT-BUTYL PEROXYDE (DUTCH)
PEROSSIDO DI BUTILE TERZIARIO (ITALIAN)
PEROXYDE DE BUTYLE TERTIAIRE (FRENCH)

TOXICITY DATA: 3	CODEN:
skn-rbt 500 mg	AIHAAP 19,205,58
eye-rbt 500 mg/24H MLD	28ZPAK -,40,72
eye-rbt 200 mg/1M rns MLD	ZAARAM 8,25,58
unk-mus TDLo:585 mg/kg:ETA	RARSAM 3,193,63
ipr-rat LD50:3210 mg/kg	AIHAAP 19,205,58

Reported in EPA ISCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: MOD ipr. Powerful irr via orl and ihl routes. An exper ETA. Skn, eye irr.
Fire Hazard: See peroxides, organic; dangerous.
Explosion Hazard: See peroxides, organic.
Disaster Hazard: See peroxides, organic.
To Fight Fire: Water may not work.

sec-BUTYL PEROXYDICARBONATE

CAS RN: 19910657 NIOSH #: SD 9675000
mf: $C_{10}H_{18}O_6$; mw: 234.28

SYN: DI-SEC-BUTYL PEROXYDICARBONATE

TOXICITY DATA: 2	CODEN:
skn-rbt LD50:1200 mg/kg	BSPII* 1/75-19B

Reported in EPA TSCA Inventory, 1980.
THR: MOD skn. See also peroxides, organic.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

t-BUTYL PEROXYPIVALATE

CAS RN: 927071 NIOSH #: SE 0950000
mf: $C_9H_{18}O_3$; mw: 174.27

Colorless liquid, insol in water and ethylene glycol, sol in most organic solvents. d: 0.854 @ 25°/25°, fp: < 19°, flash p: > 155°F (OC), rapid decomp @ 21°.

TOXICITY DATA: 1	CODEN:
orl-rat LD50:4300 mg/kg	BSPII* 1/75-19B

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. See also peroxides, organic.
Fire Hazard: Moderate via heat, flame (sparks), oxidizers.
Explosion Hazard: Explodes on heating.
To Fight Fire: Water, fog, mist, alcohol foam, dry chemical.

2-n-BUTYLPHENOL

CAS RN: 3180094 NIOSH #: SJ 8850000
mf: $C_{10}H_{14}O$; mw: 150.24

TOXICITY DATA: 3	CODEN:
skn-mus TDLo:3800 mg/kg/12W-I:NEO	CNREA8 19,413,59

THR: An exper NEO.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

4-n-BUTYLPHENOL

CAS RN: 1638228 NIOSH #: SJ 8922500
mf: $C_{10}H_{14}O$; mw: 150.24

TOXICITY DATA: 3	CODEN:
skn-mus TDLo:3840 mg/kg/12W-I:ETA	CNREA8 19,413,59

Reported in EPA TSCA Inventory, 1980.
THR: An exper ETA.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

o-sec-BUTYLPHENOL

CAS RN: 89725 NIOSH #: SJ 8920000
mf: $C_{10}H_{14}O$; mw: 150.24

Colorless liquid. bp: 226°-228° @ 25 mm, fp: 12°, flash p: 225°F, d: 0.981 @ 25°/25°.

SYN: 2-SEC BUTYLFENOL (CZECH)

TOXICITY DATA: 3-2	CODEN:
skn-rbt 500 mg/24H SEV	28ZPAK -,55,72
eye-rbt 50 ug/24H SEV	28ZPAK -,55,72
orl-rat LD50:2700 mg/kg	28ZPAK -,55,72
ivn-mus LD50:60 mg/kg	JMCMAR 23,1350,80

TLV: Air: 5 ppm DTLVS* 4,58,80. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: HIGH ivn. MOD orl. A skn, eye irr.
Fire Hazard: Low.
To Fight Fire: Foam, spray, CO_2, dry chem.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

p-SEC-BUTYL PHENOL

mf: $(CH_3CHC_2H_5)C_6H_4OH$, mw: 150.2

Nearly white flakes. bp: 135.4°-136.5° @ 25 mm, fp: 51°, flash p: 240°F, d: 0.963 @ 60°/60°.

THR: MOD via oral route.
Fire Hazard: Slight, when exposed to heat or flame.
Disaster Hazard: Mod; when heated to decomp, emits tox fumes.
To Fight Fire: Foam, CO_2, dry chemical.
Incomp: Oxidizing materials.

4-t-BUTYLPHENOL

CAS RN: 98544 NIOSH #: SJ 8925000
mf: $C_{10}H_{14}O$; mw: 150.24

Crystals or practically white flakes. bp: 238°, fp: 97°, d: 0.9081 @ 114°/4°, vap. press: 1 mm @ 70.0°, vap. d: 5.1.

SYNS:
P-TERT.BUTYLFENOL (CZECH)
P-TERT-BUTYLPHENOL
1-HYDROXY-4-TERT-BUTYLBENZENE

TOXICITY DATA: 2-1	CODEN:
skn-rbt 500 mg/24H	FCTXAV 12,807,74
eye-rbt 454 mg SEV	IHFCAY 6,1,67
eye-rbt 50 ug/24H SEV	28ZPAK -,55,72
skn-gpg 5%/3W MLD	JIDEAE 74,241,70
skn-gpg 10%/3W SEV	JIDEAE 74,241,70
orl-rat LD50:5660 mg/kg	IHFCAY 6,1,67
skn-rbt LD50:2520 mg/kg	AIHAAP 30,470,69

Reported in EPA TSCA Inventory, 1980.
THR: A skn, eye irr. MOD skn. LOW orl.
Fire Hazard: Low, when exposed to heat or flame; can react with oxidizing materials.
To Fight Fire: Foam, CO_2, dry chemical.
Disaster Hazard: When heated to decomp it emits acrid smoke and irr fumes.

4'-(3-(4'-t-BUTYLPHENOXY)-2-HYDROXYPROPOXY)BENZOIC ACID

CAS RN: 56488596 NIOSH #: DG 4927000
mf: $C_{20}H_{24}O_5$; mw: 344.44

SYN: 4-(3-(4-(1,1-DIMETHYLETHYL)PHENOXY)-2-HYDROXYPROPOXY)BENZOIC ACID

TOXICITY DATA: 3-2	CODEN:
orl-rat LD50:2400 mg/kg	DRFUD4 4,140,79
ipr-rat LD50:500 mg/kg	DRFUD4 4,140,79

...ed in EPA TSCA Inventory, 1980. EPA TSCA ... Preliminary Assessment Information Proposed ...le FEREAC 45,13646,80.
...: MOD orl.
...Hazard: When heated to decomp it emits very ... fumes of NO_x and SO_x.

...ISOPROPYLBERYLLIUM

...: $C_6H_{14}Be$; mw: 95.19

...comp: Water; explosive.

...ISOPROPYLCARBODIIMIDE

...AS RN: 693130 NIOSH #: FF 2175000
...: $C_7H_{14}N_2$; mw: 126.23

...OXICITY DATA: 3	CODEN:
...mus LD50:36 mg/kg	CSLNX* NX#05886

...eported in EPA TSCA Inventory, 1980.
...THR: HIGH ivn.
...aster Hazard: When heated to decomp it emits tox fumes of NO_x.

O,O-DIISOPROPYL-S-(DIETHYLTHIOCARBAMYL) PHOSPHORODITHIOATE HYDROSULFIDE

CAS RN: 5827043 NIOSH #: EZ 4900000
...: $C_{11}H_{24}NO_2PS_3 \cdot H_2S$; mw: 363.59

SYN: O,O-DIISOPROPYL-S-(DIETHYLTHIOCARBAMYL)THIOTHIONO-PHOSPHATE HYDROSULFIDE

TOXICITY DATA: 3	CODEN:
...rat LD50:320 mg/kg	28ZEAL 4,175,69
...mus LD50:290 mg/kg	PAREAQ 11,636,59

THR: HIGH orl.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x, PO_x and NO_x.

N-(2-(O,O-DIISOPROPYL-DITHIOPHOSPHORYL)ETHYL) BENZENESULFONAMIDE

CAS RN: 741582 NIOSH #: TE 0250000
...: $C_{14}H_{24}NO_4PS_3$; mw: 397.54

SYNS:

...NSULIDE
O,O-BIS(1-METHYLETHYL) S-(2-((PHENYLSULFONYL) AMINO) ETHYL)PHEOSPHORODITHIOATE
N-(BETA-O,O-DIISOPROPYLDITHIOPHOSPHORYLETHYL) BEZENESULFONAMIDE
S-(O,O-DIISOPROPYL PHOSPHORODITHIOATE) ESTER OF N-(2-MERCAPTOETHYL)BENZENESULFONAMIDE
N-(2-MERCAPTOETHYLBENZENESULFONAMIDE-S-(O,O-DIISOPROPYL PHOSPHORODITHIOATE)
PHOSPHORODITHIOIC ACID, O,O-BIS(1-METHYLETHYL)-S-(2-((PHENYLSULFONYL)AMINO) ETHYL ESTER

TOXICITY DATA: 2	CODEN:
...rat LD50:770 mg/kg	WRPCA2 9,119,70
...rat LD50:3950 mg/kg	31ZOAD 1,34,68
...rat LD50:770 mg/kg	30ZDA9 -,375,71
...rbt LD50:2000 mg/kg	WRPCA2 9,119,70

Toxicology Review: 27ZTAP 3,23,69.
THR: MOD orl, skn, unk. See also esters.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x, SO_x and PO_x.
For further information see Bensulide, Vol. 2, No. 4 of *DPIM Report.*

DIISOPROPYL ESTER SULFURIC ACID

CAS RN: 2973106 NIOSH #: WS 8050000
mf: $C_6H_{14}O_4S$; mw: 182.26

SYNS:

DI-ISOPROPYLSULFAT (GERMAN)
DI-ISOPROPYLSULFATE
ISOPROPYL SULFATE

TOXICITY DATA: 3	CODEN:
scu-rat TDLo:300 mg/kg TFX:ETA	ZKKOBW 79,135,73
orl-rat LD50:1090 mg/kg	AIHAAP 30,470,69
skn-rbt LD50:1410 mg/kg	AIHAAP 30,470,69

EPA TSCA 8E No. 1077006—File Closed as of April, 1979.
THR: An exper ETA. MOD orl, skn. See also esters and sulfates.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

N,N-DIISOPROPYLETHANOLAMINE

CAS RN: 96800 NIOSH #: KK 5950000
mf: $C_8H_{19}NO$; mw: 145.28

Colorless liquid, slightly sol in water. d: 0.8742 @ 20°; vap. press: 0.08 mm @ 20°, fp: −39.3°, bp: 191°, flash p: 175°F (OC).

SYNS:

DIISOPROPYLETHANOLAMINE (DOT)
2-DIISOPROPYLAMINOETHANOL

TOXICITY DATA: 2	CODEN:
skn-rbt 500 mg open MLD	UCDS** 6/6/69
eye-rbt 750 ug SEV	AMIHBC 10,61,54
orl-rat LD50:1070 mg/kg	UCDS** 6/6/69
ipr-rat LD50:1080 mg/kg	TXAPA9 12,486,68
skn-rbt LD50:450 mg/kg	AMIHBC 10,61,54

DOT: Corrosive Material, Label: Corrosive FEREAC 41,57018,76. Reported in EPA TSCA Inventory, 1980.
THR: MOD orl, ipr, skn. A MLD skn irr and SEV eye irr in rbt. See also amines.
Fire Hazard: Mod, when exposed to heat, flame or oxidizers.
To Fight Fire: Dry chemical, CO_2.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

DIISOPROPYL ETHER

CAS RN: 108203 NIOSH #: TZ 5425000
mf: $C_6H_{14}O$; mw: 102.20

Colorless liquid, ethereal odor, miscible in water. mp: −60°, bp: 68.5°, lel = 1.4%, uel = 7.9%, flash p: −18°F (CC), d: 0.719 @ 25°, autoign. temp.: 830°F, vap. press: 150 mm @ 25°, vap. d: 3.52.

SYNS:

DIISOPROPYL OXIDE	2-ISOPROPOXYPROPANE
ETHER ISOPROPYLIQUE (FRENCH)	IZOPROPYLOWY ETER (POLISH)
ISOPROPYL ETHER	

TOXICITY DATA: 2-1	CODEN:
ihl-rat LC50:162 gm/m3	GTPZAB 19(10),55,75
unk-rat LD50:5880 mg/kg	GTPZAB 19(10),55,75
ihl-mus LC50:131 gm/m3	GTPZAB 19(10),55,75
unk-mus LD50:3600 mg/kg	GTPZAB 19(10),55,75
ihl-rbt LC50:121 gm/m3	GTPZAB 19(10),55,75
skn-rbt 363 mg open MLD	UCDS** 4/10/68
ihl-hmn TCLo:800 ppm:IRR	14CYAT 2,1661,63
orl-rat LD50:8470 mg/kg	UCDS** 4/10/68
ipr-mus LD50:812 mg/kg	SCCUR* -,5,61
skn-rbt LD50:20 gm/kg	UCDS** 4/10/68

Aquatic Toxicity Rating: TLm96:1000-100 ppm WQCHM* 3,-,74.

TLV: Air: 250 ppm DTLVS* 4,239,80. OSHA Standard: Air: TWA 500 ppm (SCP-V) FEREAC 39,23540,74. DOT: Flammable Liquid, Label: Flammable Liquid FEREAC 41,57018,76. "NIOSH Manual of Analytical Methods" VOL 3 S368. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.

THR: A hmn IRR; a skn irr. MOD ipr; LOW orl, skn. See also ethers.

Fire Hazard: Dangerous, when exposed to heat, flame or oxidizers.

Spontaneous Heating: No.

Explosion Hazard: Severe, when exposed to heat or flame. Can form peroxides and explode upon shaking unless treated with sodium sulfite. Violent reaction with chlorosulfonic acid, HNO_3.

Disaster Hazard: Dangerous; keep away from heat, sparks or open flame; under some conditions shock will explode it; emits highly tox fumes; reacts vigorously with oxidizing materials.

To Fight Fire: Alcohol foam, CO_2, foam, dry chemical.

N,N-DIISOPROPYL ETHYL CARBAMATE

NIOSH #: EZ 8100000

mf: $C_9H_{19}NO_2$; mw: 173.29

SYN: DIISOPROPYL ETHYL CARBAMATE

TOXICITY DATA: 3	CODEN:
ipr-mus TDLo:6500 mg/kg/13W-I:ETA	JNCIAM 9,35,48

THR: An exper ETA. See also carbamates.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

N,N-DIISOPROPYL ETHYLENEDIAMINE

CAS RN: 121051 NIOSH #: KV 4200000

mf: $C_8H_{20}N_2$; mw: 144.30

SYN: USAF AM-2

TOXICITY DATA: 3	CODEN:
ipr-mus LD50:200 mg/kg	NTIS** AD277-689

Reported in EPA TSCA Inventory, 1980.

THR: HIGH ipr.

Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

O,O-DIISOPROPYL-S-ETHYLSULFINYLMETHYLDITHIOPHOSPHATE

CAS RN: 5827054 NIOSH #: TE 4200000

mf: $C_9H_{21}O_3PS_3$; mw: 304.45

SYNS:

O,O-DIISOPROPYL-S-ETHYLSULFINYLMETHYL PHOSPHORODITHIOATE	S-(ETHYLSULFINYL)METHYL O,O-DIISOPROPYL PHOSPHORODITHIOATE

TOXICITY DATA: 3	CODEN:
orl-rat LD50:85 mg/kg	85ARAE 1,202,77
orl-mus LD50:85 mg/kg	28ZEAL 4,176,69

THR: HIGH orl.

Disaster Hazard: When heated to decomp it emits very tox fumes of PO_x and SO_x.

DIISOPROPYL FUMARATE

CAS RN: 7283707 NIOSH #: LT 1575000

mf: $C_{10}H_{16}O_4$; mw: 200.26

TOXICITY DATA: 2	CODEN:
skn-rbt 10 mg/24H MLD	AMIHBC 10,61,54
eye-rbt 500 mg	AMIHBC 10,61,54
orl-rat LD50:3250 mg/kg	AMIHBC 10,61,54

THR: MOD orl; MLD skn and eye irr in rbts.

Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

1,3-DIISOPROPYL GLYCEROL DIETHER

CAS RN: 13021540 NIOSH #: UB 2450000

mf: $C_9H_{20}O_3$; mw: 176.29

SYN: GLYCEROL ALPHA,GAMMA-DIISOPROPYL ETHER

TOXICITY DATA: 2	CODEN:
skn-rbt 455 mg/24H MLD	AMIHBC 2,574,50
eye-rbt 91 mg	AMIHBC 2,574,50
orl-mus LD50:1697 mg/kg	AMIHBC 2,574,50
ipr-mus LDLo:1000 mg/kg	CMDT** -,-,49

THR: MOD orl, ipr. A skn, eye irr. See also ethers.

Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

DIISOPROPYL HYDROGEN PHOSPHITE

CAS RN: 1809207 NIOSH #: SZ 7660000

mf: $C_6H_{15}O_3P$; mw: 166.18

SYNS:

DIISOPROPYL PHOSPHITE	PHOSPHONIC ACID, BIS(1-METHYLETHYL) ESTER
O,O-DIISOPROPYL PHOSPHONATE	DIISOPROPYLPHOSPHONATE
ISOPROPYL PHOSPHONATE	

TOXICITY DATA: 2	CODEN:
mmo-sat 5 uL/plate	MUREAV 28,405,75
unk-mus LD50:2920 mg/kg	AMIHAB 11,487,55

Reported in EPA TSCA Inventory, 1980.

THR: MUT data. MOD unk. See also esters.

Disaster Hazard: When heated to decomp it emits tox fumes of PO_x.

Disaster Hazard: Dangerous; keep away from heat and open flame.
To Fight Fire: Alcohol foam, CO_2, dry chemical.
For further information see Vol. 2, No. 2 of *DPIM Report.*

ISOPENTYL ALCOHOL, PROPIONATE

CAS RN: 105680 NIOSH #: NT 0190000
mf: $C_8H_{16}O_2$; mw: 144.24

Found in Cocoa bean and Bulgarian peppermint (FCTXAV 13,681,75)

SYNS:
ISOAMYL PROPIONATE
ISOPENTYL PROPIONATE
PROPIONIC ACID, ISOPENTYL ESTER

TOXICITY DATA: 1	CODEN:
orl-rbt LD50:6924 mg/kg	IMSUAI 41,31,72

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. See also esters.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ISOPENTYLAMINE HYDROCHLORIDE

CAS RN: 541231 NIOSH #: NT 0200000
mf: $C_5H_{13}N \cdot ClH$; mw: 123.65

SYNS: ISOAMYLAMINE HYDROCHLORIDE

TOXICITY DATA: 2	CODEN:
unk-rbt LDLo:900 mg/kg	27ZWAY 1,250,23
unk-frg LDLo:1500 mg/kg	CHREAY 9,389,31

Toxicology Review: CHREAY 9,389,31.
THR: MOD unk.
Disaster Hazard: When heated to decomp it emits very tox fumes of HCl and NO_x.

S-((N-ISOPENTYLAMIDINO)METHYL) HYDROGEN THIOSULFATE

CAS RN: 40283510 NIOSH #: PB 5030000
mf: $C_7H_{16}N_2O_3S_2$; mw: 240.37

TOXICITY DATA: 3	CODEN:
orl-mus LD50:175 mg/kg	JMCMAR 15,1313,72
ipr-mus LD50:63 mg/kg	JMCMAR 15,1313,72

THR: HIGH orl, ipr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

5-ISOPENTYL-5-ISOPROPENYLBARBITURIC ACID

CAS RN: 67051290 NIOSH #: CQ 7072500
mf: $C_{12}H_{18}N_2O_3$; mw: 238.32

TOXICITY DATA: 3-2	CODEN:
orl-mus LD50:450 mg/kg	JACSAT 61,96,39
ipr-mus LD50:320 mg/kg	JACSAT 61,96,39

THR: HIGH ipr; MOD orl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

5-ISOPENTYL-5-(1-METHYLALLYL)-2-THIOBARBITURIC ACID SODIUM SALT

CAS RN: 67114287 NIOSH #: CQ 7073400
mf: $C_{13}H_{19}N_2O_2S \cdot Na$; mw: 290.39

TOXICITY DATA: 3-2	CODEN:
ipr-rat LD50:444 mg/kg	JAPMA8 34,183,45
ivn-rbt LD50:103 mg/kg	JAPMA8 34,183,45

THR: HIGH ivn; MOD ipr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

ISOPENTYL NITRITE

CAS RN: 110-46-3 NIOSH NT 01875000
mf: $C_5H_{11}NO_2$; mw: 117.17

Transparent, flammable liquid; penetrating fragrant odor. Unstable; decomp on exposure to air and light. d: 0.872 @ 20°/4°; bp: 97°-99°; autoign temp: 408°F; vap d: 4.0; flash p: less than 73.4°F.

SYNS:
ISOAMYL NITRITE
3-METHYLBUTYL NITRITE
NITROUS ACID, 3-METHYL BUTYL ESTER
ISOPENTYL ALCOHOL NITRITE

TOXICITY DATA:	CODEN:
orl-rat LD50:505 mg/kg	FEPRA7 41,1583,82
ihl rat LC50:1274 ppm/1H	FEPRA7 41,1583,82

Reported in EPA TSCA Inventory, 1980. Meets criteria for proposed OSHA Medical Records Rule FEREAC 47,30420,82.
THR: HIGH ihl; MOD orl. A recreational drug said to enhance sexual enjoyment in hmns via ihl.
Fire Hazard: Dangerous. Keep away from oxidizers, flame or heat. Forms an explosive mixture in air or O_2.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

4-ISOPENTYLOXY-beta-(1-PIPERIDYL) PROPIOPHENONE HYDROCHLORIDE

CAS RN: 63957302 NIOSH #: UH 3020000
mf: $C_{19}H_{29}NO_2 \cdot ClH$; mw: 339.95

TOXICITY DATA: 3	CODEN:
scu-mus LD50:70 mg/kg	ARZNAD 5,559,55
ivn-mus LD50:21 mg/kg	JPETAB 115,419,55

THR: HIGH scu, ivn.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and HCl.

ISOPENTYL-alpha-(2-PYRROLIDIN-1'-YLETHYLAMINO)PHENYLACETATE DI (HYDROGEN MALEATE)

CAS RN: 63951495 NIOSH #: MC 0875000
mf: $C_{19}H_{30}N_2O_2 \cdot 2C_4H_4O_4$; mw: 550.67

TOXICITY DATA: 3-2 CODEN:

orl-mus LD50:1100 mg/kg	JPPMAB 12,179,60
ipr-mus LD50:250 mg/kg	JPPMAB 12,179,60
ivn-mus LD50:70 mg/kg	JPPMAB 12,179,60
ivn-rbt LDLo:15 mg/kg	JPPMAB 12,179,60

THR: HIGH ivn, ipr. MOD orl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

ISOPENTYL SALICYLATE

CAS RN: 87207 NIOSH #: VO 4375000
mf: $C_{12}H_{16}O_3$; mw: 208.28

SYNS:
SALICYLIC ACID, ISOPENTYL ESTER
ISOAMYL SALICYLATE
ISOAMYL-O-HYDROXYBENZOATE

TOXICITY DATA: 2 CODEN:

ivn-dog LD50:500 mg/kg	14CYAT 2,1847,63

Toxicology Review: 27ZTAP 3,82,69. Reported in EPA TSCA Inventory, 1980.
THR: MOD ivn.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ISOPENTYL SULFOXIDE

CAS RN: 7726230 NIOSH #: NT 0875000
mf: $C_{10}H_{22}OS$; mw: 190.38

SYNS:
DI-ISO-AMYL SULFOXIDE
ISOAMYL SULFOXIDE

TOXICITY DATA: 3-2 CODEN:

ipr-mus LD50:500 mg/kg	URBA3 3,41,61
ivn-mus LD50:56 mg/kg	CSLNX* NX#06754

THR: HIGH ivn; MOD ipr.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

ISOPHORONE DIISOCYANATE

CAS RN: 4098719 NIOSH #: NQ 5400000
mf: $C_{12}H_{18}N_2O_2$; mw: 222.32

SYNS:
3-ISOCYANATOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLISOCYANATE
ISOPHORONE DIAMINE DIISOCYANATE

TOXICITY DATA: 3-2 CODEN:

ihl-rat LC50:260 mg/m3/4H	DTLVS* 4,236,80
skn-rat LD50:1060 mg/kg	DTLVS* 4,236,80

TLV: Air: 0.01 ppm (skin) DTLVS* 4,236,80. Reported in EPA TSCA Inventory, 1980.
THR: MOD skn; HIGH ihl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

ISOPHOSPHAMIDE

CAS RN: 3778732 NIOSH #: RP 6050000
mf: $C_7H_{15}Cl_2N_2O_2P$; mw: 261.11

SYNS:
3-(2-CHLOROETHYL)-2-((2-CHLOROETHYL)AMINO) TETRAHYDRO-1,3,2-OXAZAPHOSPHORINE, 2-OXIDE
2,3-(N,N)SUP 1)-BIS(2-CHLOROETHYL)DIAMIDO-1,3,2-OXAZAPHOSPHORIDINOXYD
IPHOSPHAMIDE
NCI-C01638
NSC-109724

TOXICITY DATA: 3 CODEN:

mma-esc 10 mmol/L	ARTODN 33,225,75
ipr-mus TDLo:20 mg/kg (11D preg)	PSEBAA 143,965,73
ipr-mus TDLo:10 mg/kg (11D preg)	PSEBAA 143,965,73
ipr-mus TDLo:450 mg/kg/8W-I TFX:NEO	CNREA8 33,3069,73
mma-sat 1000 ug/plate	PNASA6 72,5135,75
dnr-esc 9 mmol/L	ZKKOBW 92,177,78
sln-dmg-unk 2 mmol/L/24H	MUREAV 33,221,75
mnt-mus-ipr 70 mg/kg/24H	MUREAV 56,319,78
cyt-ham-ipr 3300 ug/kg	ARTODN 38,35,77
ipr-rat TDLo:940 mg/kg/1Y-I:CAR	NCITR* NCI-CG-TR-32,77
ipr-mus TDLo:1600 mg/kg/1Y-I:CAR	NCITR* NCI-CG-TR-32,77
scu-mus TDLo:2600 mg/kg/65W-I:CAR	ARZNAD 29,483,79
ipr-rat TD:1872 mg/kg/1Y-I:CAR	NCITR* NCI-CG-TR-32,77
ipr-mus TD:3120 mg/kg/1Y-I:CAR	NCITR* NCI-CG-IR-32,77
ipr-mus TD:450 mg/kg/8W-I:NEO	CNREA8 33,3069,73
orl-hmn TDLo:150 mg/kg:CNS	CNREA8 32,921,72
orl-hmn TDLo:100 mg/kg:BLD	CCYPBY 3,33,72
ivn-hmn TDLo:2298 mg/kg/3D-I:WBC	EJCAAH 12,195,76
ipr-mus LD50:540 mg/kg	TUMOAB 65,169,79

Toxicology Review: ZKKOBW 88,185,77; KDYIA5 10,82,76. NCI Carcinogenesis Bioassay Completed; Results Positive: Mouse, Rat (NCITR* NCI-CG-TR-32,77).
THR: MUT data. An exper CARC, NEO. A hmn CNS, BLD, WBC. MOD acute ipr.
Disaster Hazard: When heated to decomp it emits very tox fumes of Cl^-, NO_x and PO_x.

ISOPHTHALALDEHYDE

CAS RN: 626197 NIOSH #: NT 1981000
mf: $C_8H_6O_2$; mw: 134.14

SYN: ISOPHTALDEHYDES (FRENCH)

TOXICITY DATA: 3-2 CODEN:

ivn-mus LD50:100 mg/kg	CSLNX* NX#07922
unk-mus LDLo:696 mg/kg	COREAF 246,851,58

THR: HIGH ivn; MOD unk.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ISOPHTHALIC ACID

CAS RN: 121915 NIOSH #: NT 2000000
mf: $C_8H_6O_4$; mw: 166.14

Colorless crystals, slightly sol in water, sol in alcohol and acetic acid, insol in benzene and petroleum ether. mp: 345°-348°. Sublimes without decomp.

p-NITROPHENYL SERINE

CAS RN: 72361003 NIOSH #: VT 9631000
mf: $C_9H_{10}N_2O_5$; mw: 226.21

TOXICITY DATA: 2-1	CODEN:
orl-rat LD50:24000 mg/kg	GISAAA 24(9),15,59
skn-rat LD50:16000 mg/kg	GISAAA 24(9),15,59
ipr-rat LD50:3200 mg/kg	GISAA 24(9),15,59

THR: LOW orl, skn. MOD ipr. See also nitro compounds of aromatic hydrocarbons.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

p-NITROPHENYL 2,4,6-TRICHLOROPHENYL ETHER

CAS RN: 1836777 NIOSH #: KO 2700000
mf: $C_{12}H_6Cl_3NO_3$; mw: 318.54

SYNS:
2,4,6-TRICHLORO-4'-NITRODIPHENYL ETHER
2,4,6-TRICHLOROPHENYL-4-NITROPHENYL ETHER

TOXICITY DATA: 1	CODEN:
orl-rat LD50:10800 mg/kg	85ARAE 2,195,77
orl-mus LD50:11800 mg/kg	FMCHA2 -,D74,80

THR: LOW orl. See also ethers.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and Cl^-.

p-NITROPHENYL alpha,alpha,alpha-TRIFLUORO-2-NITRO-p-TOLYL ETHER

CAS RN: 15457053 NIOSH #: KO 2750000
mf: $C_{13}H_7F_3N_2O_5$; mw: 328.22

SYNS:
2-NITRO-1-(4-NITROPHENOXY)-4-(TRIFLUOROMETHYL)BENZENE
p-NITROPHENYL-2-NITRO-4-(TRIFLUOROMETHYL) PHENYL ETHER

TOXICITY DATA: 1	CODEN:
eye-rbt 100 mg MOD	CIGET* -,-,77
orl-rat LD50:9000 mg/kg	FMCHA2 -,D252,80

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. MOD eye irr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and F^-.

1-NITROPROPANE

CAS RN: 108032 NIOSH #: TZ 5075000
mf: $C_3H_7NO_2$; mw: 89.11

Slightly sol in water; misc in alc and ether. Colorless liquid. bp: 132°, fp: −108°, flash p: 93°F (TCC), d: 1.003 @ 20°/20°, autoign. temp.: 789°F, vap. press: 7.5 mm @ 20°, vap. d: 3.06, lel = 2.2%; misc with many organic solvents.

TOXICITY DATA: 3-2	CODEN:
eye-hmn 150 ppm/15M	JIHTAB 28,262,46
ihl-hmn TCLo:150 ppm:IRR	JIHTAB 28,262,46
orl-rat LD50:455 mg/kg	NPIRI* 1,91,74
ihl-rat LC50:3100 ppm/8H	NPIRI* 1,91,74
ipr-mus LD50:250 mg/kg	KHFZAN 10(6),53,76
orl-rbt LDLo:250 mg/kg	JIHTAB 22,315,40

TLV: Air: 15 ppm DTLVS* 4,309,80. *Toxicology Review:* 27ZTAP 3,102,69. OSHA Standard: Air: TWA 25 ppm (SCP-P) FEREAC 39,23540,74. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.
THR: A hmn eye irr and IRR. HIGH ipr, orl; MOD orl, ihl.
Fire Hazard: Mod, when exposed to heat, open flame or oxidizers.
Explosion Hazard: See nitrates. Reacts violently with $Ca(OH)_2$, hydrocarbons, hydroxides, inorganic bases. May explode on heating.
Disaster Hazard: See nitrates.
To Fight Fire: Alcohol foam, CO_2, dry chemical, water spray.
Incomp: Metal oxides.

2-NITROPROPANE

CAS RN: 79469 NIOSH #: TZ 5250000
mf: $C_3H_7NO_2$; mw: 89.11

Sol in water, alcohol and ether. Colorless liquid. bp: 120°, fp: −93°, flash p: 82°F (TCC), d: 0.992 @ 20°/20°, autoign. temp.: 802°F, vap. press: 10 mm @ 15.8°, vap. d: 3.06, lel = 2.6%; misc with many organic solvents.

SYNS:
DIMETHYLNITROMETHANE
ISONITROPROPANE
NITROISOPROPANE

TOXICITY DATA: 3-2	CODEN:
mmo-sat 25 uL/plate	NIOSH* 13APR77
mma-sat 3 uL/plate	ENMUDM 1,383,79
ipr-rat TDLo:2550 mg/kg (1-15D preg)	TXAPA9 48,A35,79
ipr-rat TDLo:2550 mg/kg (1-15D preg)	EPASR* 8EHQ-0381-0386
ihl-rat TCLo:207 ppm/26/W-I:ETA	XPHCI* 26APR77
ihl-man TCLo:20 ppm:GIT	INMEAF 16,441,47
orl-rat LDLo:500 mg/kg	NCNSA6 5,32,53
ihl-rat LC50:400 ppm/6H	JEPTDQ 2,233,78
ipr-mus LD50:75 mg/kg	NTIS** AD691-490
ihl-cat LCLo:714 ppm/5H	AMIHBC 5,52,52
orl-rbt LDLo:500 mg/kg	JIHTAB 22,315,40
ihl-rbt LCLo:2381 ppm/5H	AMIHBC 5,52,52
ihl-gpg LCLo:4622 ppm/5H	AMIHBC 5,52,52

Aquatic Toxicity Rating: TLm96:100-10 ppm WQCHM* 4,-,74.
TLV: Air: 25 ppm DTLVS* 4,309,80. OSHA Standard: Air: TWA 25 ppm (SCP-P) FEREAC 39,23540,74. "NIOSH Manual of Analytical Methods" vol 4 272*. NIOSH Current Intelligence Bulletin 17, 1977. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80. EPA TSCA 8E No. 05780170—Followup Sent as of April, 1979.
THR: MUT data. A hmn GIT. An exper ETA. HIGH ihl, ipr; MOD orl, ihl. Causes hepatocellular carcinoma via inhal route to 207 ppm for 6 months. Can cause gastrointestinal disturbances and injury to liver and

kidneys. Large doses produce methemoglobinemia and cyanosis. See also nitrates.
Fire Hazard: Mod, when exposed to heat, open flame or oxidizers.
Explosion Hazard: May explode on heating; also violent reactions with chlorosulfonic acid, oleum.
Disaster Hazard: See nitrates.
To Fight Fire: Alcohol foam, CO_2, dry chemical, water spray.
For further information see Vol. 2, No. 2 of *DPIM Report.*

3-NITROPROPIONIC ACID

CAS RN: 504881 NIOSH #: UF 6220000
mf: $C_3H_5NO_4$; mw: 119.09

SYNS:
HIPTAGENIC ACID
BETA-NITROPROPIONIC ACID
NCI-C03076

TOXICITY DATA: 3	CODEN:
mmo-sat 100 ug/plate	IRRCCD 27,283,80
orl-rat TDLo:1870 mg/kg/2Y-I:NEO	NCITR* NCI-CG-TR-52,78
ivn-mus LD50:50 mg/kg	85ERAY 2,925,78

NCI Carcinogenesis Bioassay Completed; Results Indefinite: Rat (NCITR* NCI-CG-TR-52,78); Results Negative: Mouse (NCITR* NCI-CG-TR-52,78).
THR: An exper NEO, CARC. HIGH ivn. MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

4-NITRO-7-(4-PROPYL-1-PIPERAZINYL) BENZOFURAZAN 1-OXIDE

CAS RN: 61785522 NIOSH #: DF 8032000
mf: $C_{13}H_{17}N_5O_4$; mw: 307.35

SYN: a2766

TOXICITY DATA:	CODEN:
mmo-sat 10 ug/plate	MUREAV 48,145,77
mma-sat 10 ug/plate	MUREAV 48,145,77

THR: MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

3-NITROPYRENE

CAS RN: 5522430 NIOSH #: UR 2480000
mf: $C_{16}H_9NO_2$; mw: 247.26

SYN: 1-NITROPYRENE

TOXICITY DATA:	CODEN:
mma-sat 1 n mol/plate	SCIEAS 209,1039,80
mma-sat 500 ug/plate	MUREAV 91,321,81

THR: MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

4-NITROPYRIDINE-N-OXIDE

CAS RN: 1124330 NIOSH #: UT 6380000
mf: $C_5H_4N_2O_3$; mw: 140.11

TOXICITY DATA: 3	CODEN:
dns-ham:oth 50 umol/L	NATUAS 229,416,71
mmo-sat 25 ug/plate	MUREAV 58,371,78
mmo-esc 500 umol/L	GANNA2 70,799,79
dnr-esc 500 ug/plate	CNREA8 32,2369,72
mrc-esc 500 ug/plate	CNREA8 32,2369,72
dnd-mus:fbr 50 umol/L	CNREA8 35,521,75
scu-mus TDLo:960 mg/kg/15W-I:ETA	GANNA2 70,799,79
orl-rat LDLo:8 mg/kg	34ZIAG -,430,69
orl-dog LDLo:34 mg/kg	34ZIAG -,430,69

Reported in EPA TSCA Inventory, 1980.
THR: MUT data. An exper ETA. HIGH orl.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

N-(4-(5-NITRO-2-PYRROLYL)-2-THIAZOLYL) FORMAMIDE

NIOSH #: LQ 3159500
mf: $C_8H_6N_4O_3S$; mw: 238.24

SYN: 2-FORMYLAMINO-4-(5-NITRO-2-PYRROLYL)THIAZOLE

TOXICITY DATA:	CODEN:
mmo-sat 2500 ng/plate	CNREA8 35,3611,75

THR: MUT data.
Disaster Hazard: When heated to decomp it emits very tox fumes of SO_x and NO_x.

2-NITROQUINOLINE

CAS RN: 18714346 NIOSH #: VC 1750000
mf: $C_9H_6N_2O_2$; mw: 174.17

TOXICITY DATA: 3	CODEN:
scu-mus TDLo:680 mg/kg/31W-I:ETA	GANNA2 60,609,69

THR: An exper ETA in mus.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

5-NITROQUINOLINE

CAS RN: 607341 NIOSH #: VC 1850000
mf: $C_9H_6N_2O_2$; mw: 174.17

TOXICITY DATA:	CODEN:
mma-sat 100 nmol/plate	MUREAV 58,11,78
mmo-esc 500 ug/plate	CNREA8 32,2369,72
dnd-mus:fbr 500 umol/L	CNREA8 35,521,75

THR: MUT data.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

6-NITROQUINOLINE

CAS RN: 613503 NIOSH #: VC 1900000
mf: $C_9H_6N_2O_2$; mw: 174.17

Needles; mp: 149°-150°; bp: subl.; slightly sol in cold water; cold alc and ether; sol in benzene.

REFERENCES

REFERENCES

1. Site Inspection Log Book ALD041511361, Uniroyal, Incorporated, January 9, 1985 (interview, observations, measurements, site plans, analytical data of sampling, etc.).

2. ADEM Land, Water, and Air Divisions, file correspondence and staff communications.

3. Uniroyal, Incorporated Preliminary Assessment, ALD041511361, August 28, 1984.

4. Hazardous and Toxic Effects of Industrial Chemicals, Sittig, 1979.

5. AWIC/ADEM compliance monitoring analyses.

6. Alabama G.S. and U.S.G.S. reports, geologic topographic, and soil maps for Lee County.

7. Environmental Data Inventory, State of Alabama, Mobile District, U.S. Army Corps of Engineers, 1981.

8. ADEM Public Water Supply Data and Well Logs for Lee County.

9. Alabama County Data Book, 1983.

10. Alabama Geological Survey - Groundwater Levels in Alabama, various years.

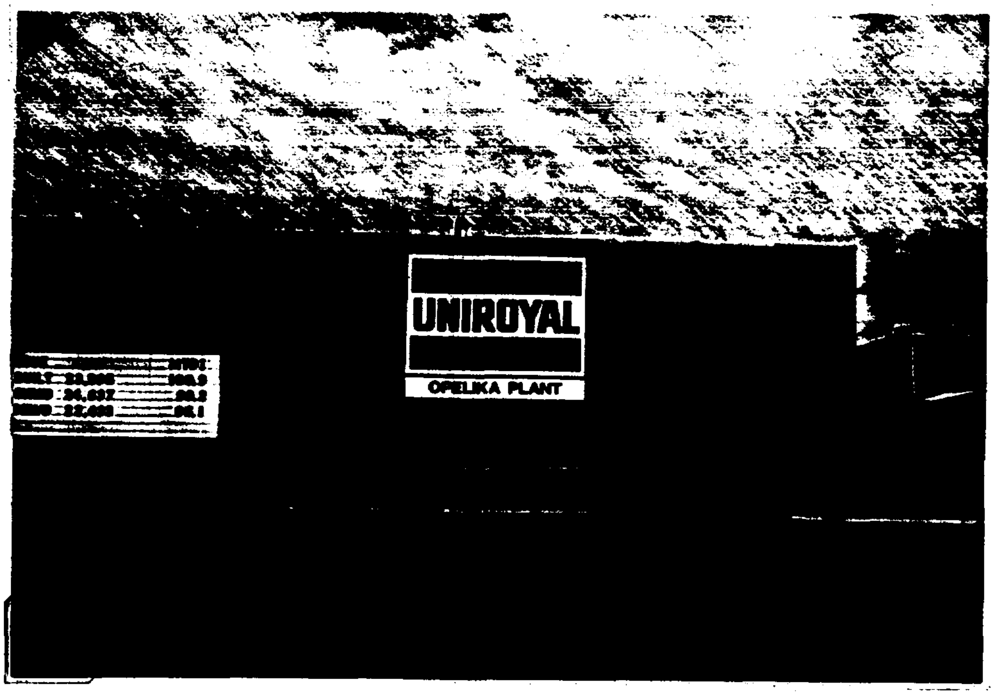
11. Alabama Directory of Mining and Manufacturing, 1982-1983.

12. Climatological Survey for Forty Potential Hazardous Waste Sites in Alabama, prepared by Office of State Climatologist, Jan. 1985.

13. Dangerous Properties Of Industrial Materials, Sixth Edition, N. Irving Sax, 1984.

14. The Merck Index, Ninth Edition, Merck & Co., Inc. 1976.

PHOTOGRAPHS



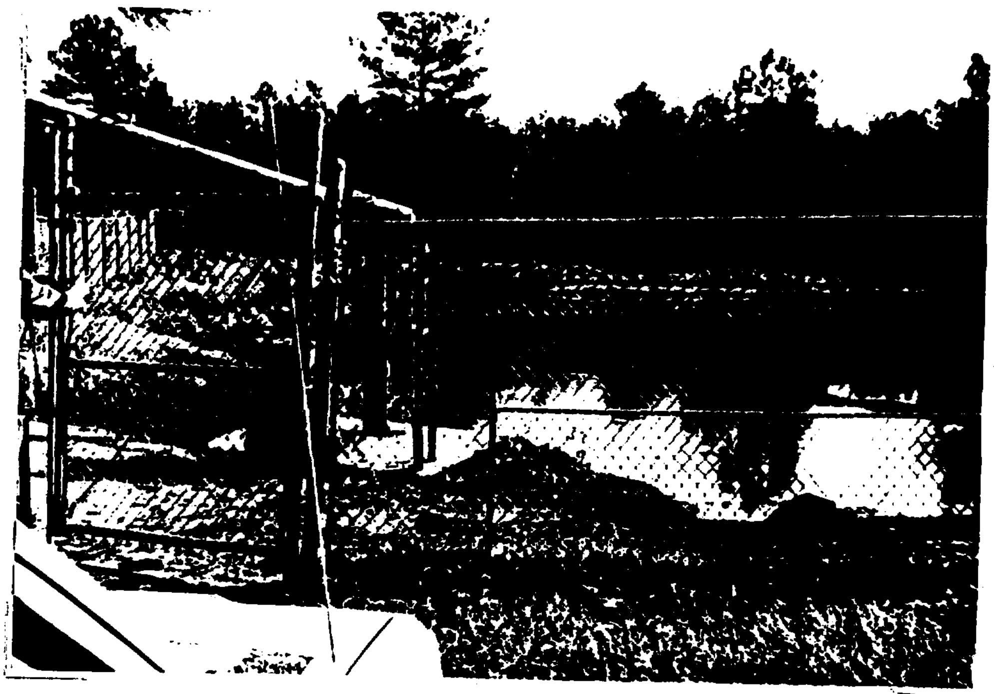
Entrance to
Uniroyal facility.

Station UNR-S01-BG

Background sample
taken at railroad
tracks north of
plant.

Active Surface Impoundment in NPDES system - Separator present in fore-ground.

Active Surface Impoundment Stations
UNR-SD3-APD
UNR-SD4-APD
UNR-WA1-APD



Inactive Surface Impoundment - Note sheen in front of boom.

Inactive Surface Impoundment Stations
UNR-SD1-OPD
UNR-SD2-OPD
UNR-WA2-OPD
(Sheen more visible).

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

Alabama RCRA 3012 Site Ranking Scheme
EPS Form 3012-V

Site Name UNIROYAL
Site Number ALD041511361

Site Inspection Ranking Scheme

(Select one answer for each of the following seven questions)

1. Are Hazardous Substances Present?

A. Confirmed on site!	10 points	
B. Suspected at site!	5 points	X
C. It is unknown!	2 points	
D. No hazardous substances	0 points	
E. RCRA facility only!	0 points	

2. Is There a Pollution Dispersal Pathway?

A. Direct to surface and/or groundwater.	5 points	X
B. Indirect to surface and/or groundwater.	4 points	
C. Suspected to surface and/or groundwater.	3 points	
D. Not known for sure.	2 points	
E. No pathway.	0 points	

3. Characteristics of Human Population?

A. High density.	5 points	
B. Medium density.	4 points	
C. Low density.	3 points	
D. No population.	2 points	

4. Characteristics of Natural Environment?

A. Critical habitat including endangered species, etc.	5 points	
B. Sensitive habitat.	3 points	
C. Common less sensitive habitat.	2 points	X

5. How is Human Population Affected By Site?

A. Public utility of drinking water from site.	5 points	
B. Direct public access to site.	4 points	
C. Public access to affected surface water.	3 points	X
D. Only potential for human population contact.	2 points	
E. Low or no potential for contact.	1 point	

6. Facility Management Practices at Site?

A. Site actively supervised and managed currently with monitoring reports and other permit and report requirements.	1 point	
B. Site inadequately managed ~~records not up-to-date~~. ADEM REPORTS PROBLEMS	3 points	X

C. Site not currently managed or regulated. | 4 points | ___
D. Abandon site. | 5 points | ___

7. Potential Responsible Parties for Site Operations?
   A. Controlling party identified and accepts responsibility for site. | 1 point | X
   B. Suspected controlling party identified but does not accept responsibility for site. | 4 points | ___
   C. No responsible party available. | 5 points | ___

Ranking Score =

$$\underset{\#1}{5} \times \left[\underset{\#2}{5} + \underset{\#4}{2} + \left(\underset{\#3}{3} \times \underset{\#5}{3} \right) + \underset{\#6}{3} + \underset{\#7}{1} \right]$$

TABLE 1. Ranking Assessment

NUMERICAL RANGE	PRIORITY ASSESSMENT
0-50	NONE
50-150	LOW
150-300	MEDIUM
300-450	HIGH

Ranking Score: 100

Priority Assessment: Low

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	DD41511 361

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
UNIROYAL, INC.	HIGHWAY 169

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
OPELIKA	AL	36801	LEE	031	03

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
33 36 46.	085 20 33.	☒ A. PRIVATE ☐ B. FEDERAL ____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (MONTH DAY YEAR)	02 SITE STATUS	03 YEARS OF OPERATION
1 / 9 / 85	☒ ACTIVE ☐ INACTIVE	1963 / ____ (BEGINNING YEAR / ENDING YEAR) ____ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ____ (Name of firm)

☐ E. STATE ☒ F. STATE CONTRACTOR EPS, INC. (Name of firm) ☐ G. OTHER ____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
PAUL J. BIERSTINE, P.E.	GEOHYDROLOGIST	EPS	(601) 922-8242

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
BILLY A. WARDEN, E.I.T.	FIELD SUPPORT STAFF	EPS	(601) 922-8242
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
PALMER PETERSON	CHIEF M.E.	UNIROYAL - OPELIKA	(205) 745-6411
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	9 00 AM.	CLEAR, COOL

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
STEVE MAURER SCM	ADEM	(205) 271-7728

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
DONALEA DINSMORE		EPS	(601) 922-8242	4 4 85

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	D041511361

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES *(Check all that apply)*

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER ____________ *(Specify)*
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE *(Measures of waste quantities must be independent)*

TONS ____________

CUBIC YARDS ____________

NO. OF DRUMS ____________

03 WASTE CHARACTERISTICS *(Check all that apply)*

- ☐ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES *(See Appendix for most frequently cited CAS Numbers)*

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS *(See Appendix for CAS Numbers)*

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	D041511361

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: ______ (Acres) 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	D041511361

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (include name(s) of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________
04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: ________

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	D041511361

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☒ A. NPDES	AL0000621			
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☒ E. RCRA INTERIM STATUS	ALD041511136			Currently Generator Only
☒ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)
- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER ______ (Specify)

05 OTHER
- ☒ A. BUILDINGS ON SITE

06 AREA OF SITE
______ (Acres)

07 COMMENTS
SURFACE IMPOUNDMENTS USED IN NPDES SYSTEM

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO
02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

RCRA 3012 SITE INVESTIGATION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: AL
02 SITE NUMBER: D041511361

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. X	B. X
NON-COMMUNITY	C. ☐	D. X

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. X
D. ☐	E. ☐	F. X

03 DISTANCE TO SITE
A. 2.5 (mi)
B. 1.5-2 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING
X B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: EST. 200-300

03 DISTANCE TO NEAREST DRINKING WATER WELL: EST 1 (mi)

04 DEPTH TO GROUNDWATER: 40-60 ft. (ft)

05 DIRECTION OF GROUNDWATER FLOW: GENERALLY SOUTHWEST

06 DEPTH TO AQUIFER OF CONCERN: 40-60 (ft)

07 POTENTIAL YIELD OF AQUIFER: $0.1-1 \times 10^6$ (gpd)

08 SOLE SOURCE AQUIFER: ☐ YES X NO

09 DESCRIPTION OF WELLS (including useage, depth, and location relative to population and buildings)
3 WELLS LOCATED WITHIN 2 MILES NORTH-NORTHWEST OF SITE IN TRAILER PARKS WELLS ARE DRILLED TO DEPTH OF 50 FT. WITH 10-20 FT. WATER LEVELS, OPELIKA OWNS A SPRING AN ESTIMATED 2.5 MILES SOUTHEAST OF SITE IN MARBLE FORMATION WITHDRAW 1100 GPM FOR PUBLIC WATER SUPPLY

10 RECHARGE AREA
☐ YES
☐ NO
COMMENTS: AQUIFER MAPS INDICATE RECHARGE FOR PIEDMONT AQUIFER - SPRINGS AND ARTESIAN FLOW REPORTED IN AREA

11 DISCHARGE AREA
X YES
☐ NO
COMMENTS: SPRING REPORTED WITHIN 2 MILES SOUTHEAST OF SITE IN MARBLE FORMATION

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE
☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C. COMMERCIAL, INDUSTRIAL
☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
LITTLE UCHEE CREEK	☐	0.1 (mi)
CHEWACLA CREEK	☐	0.1 (mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 200 EST (NO. OF PERSONS)	B. 300 EST (NO. OF PERSONS)	C. 1000 EST (NO. OF PERSONS)

02 DISTANCE TO NEAREST POPULATION: 0.2 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: 125-150 EST

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 0.2 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)
SITE IS LOCATED OUTSIDE METROPOLITAN OPELIKA. 2 TRAILER PARKS NOTED TO THE NORTH, NORTHWEST OF SITE (EST. 1.5 mi.) COMMUNITY OF PARKERS CROSSROADS LOCATE 3 MILES SOUTH (UNINCORPORATED), AREA IS CHARACTERIZED AS RURAL

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

EPA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
AL	D041511361

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
50-70 (ft)	(ft)	5.5-6.0

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
20 (in)	3.5 (in)	2-5 %	VARIED GEN. SW	5-20 %

09 FLOOD POTENTIAL

SITE IS IN >100 YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE A. ______ (mi) OTHER B. >50 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

>10 (mi)

ENDANGERED SPECIES: ______

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 1 (mi)	B. 3 (mi)	C. ______ (mi)	D. ______ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

TOPOGRAPHIC MAPS INDICATE THAT UNIROYAL IS LOCATED IN AN AREA TYPICAL OF THE PIEDMONT UPLAND GEOMORPHIC SECTION. THIS IS CHARACTERIZED BY ROLLING HILLS OF MODERATE RELIEF. STREAMS DISSECTING THE UPLAND PROVIDE GREATEST RELIEF IN THEIR VALLEYS (75-150 FT.) THE PLANT SITE APPEARS TO HAVE BEEN GRADED WITH SLOPES GENERALLY VARIED AND TO ALL DIRECTIONS.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

PUBLIC WATER SUPPLY INVENTORY
WATER AVAILABILITY, LEE COUNTY, ALABAMA, GEOLOGICAL SURVEY MAP 131
CORP. OF ENGINEERS, DATA INVENTORY FOR STATE OF ALABAMA.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
AL	D041511361

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

02 IN CUSTODY OF ______________________
(Name of organization or individual)

03 MAPS
☐ YES
☐ NO

04 LOCATION OF MAPS ______________________

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
AL	D041511361

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
UNIROYAL INC	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE
MIDDLEBURY	CT.	06749

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	D041511361

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	UNIROYAL, INC.
02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	HIGHWAY 169
04 SIC CODE	3011
05 CITY	OPELIKA
06 STATE	AL
07 ZIP CODE	36801
08 YEARS OF OPERATION	
09 NAME OF OWNER	

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	
11 D+B NUMBER	
12 STREET ADDRESS (P.O. Box, RFD #, etc.)	
13 SIC CODE	
14 CITY	
15 STATE	
16 ZIP CODE	

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME		01 NAME	
02 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)			
04 SIC CODE			
05 CITY			
06 STATE			
07 ZIP CODE			
08 YEARS OF OPERATION			
09 NAME OF OWNER DURING THIS PERIOD			

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME			
11 D+B NUMBER			
12 STREET ADDRESS (P.O. Box, RFD #, etc.)			
13 SIC CODE			
14 CITY			
15 STATE			
16 ZIP CODE			

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
AL	D041511361

II. ON-SITE GENERATOR

01 NAME		02 D+B NUMBER
UNIROYAL, INC		
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		**04 SIC CODE**
HIGHWAY 169		3011
05 CITY	**06 STATE**	**07 ZIP CODE**
OPELIKA	AL	36801

III. OFF-SITE GENERATOR(S)

01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
AL	D041511361

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ L. ENCAPSULATION 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
AL	D041511361

II PAST RESPONSE ACTIVITIES *(Continued)*

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

III. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	D041511361

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

III. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

ADEM LAND AND WATER DIVISION FILES

EPA FORM 2070-13 (7-81)

ENVIRONMENTAL PROTECTION SYSTEMS, INC.
RCRA 3012
SITE SAFETY PLAN

A. GENERAL INFORMATION

SITE: Uniroyal, Inc. EPA NO.: ALD041511361

LOCATION: Highway 169, Opelika, AL 36801

PLAN PREPARED BY: Steven M. Hornung DATE: 11/21/84
APPROVED BY: ____________ DATE: 12/14/84
E. Corbin McGriff, Jr., Ph.D., P.E.

OBJECTIVE(S): To determine if there are any hazardous contaminants on the site.

PROPOSED DATE OF INVESTIGATION: Jan. 1985

BACKGROUND REVIEW: Complete: ___ Preliminary: ___

DOCUMENTATION/SUMMARY: OVERALL HAZARD: Serious: ___ Moderate: ___
Low: X Unknown: ___

B. SITE/WASTE CHARACTERISTICS

WASTE TYPE(S): Liquid: X Solid: ___ Sludge: ___ Gas: ___

CHARACTERISTICS: Corrosive: ___ Ignitable: ___ Radioactive: ___ Volatile:
Toxic: X Reactive: ___ Unknown: ___
Other (Name): ___

FACILITY DESCRIPTION: The faciltiy is a tire plant.

Principal Disposal Method (type and location): Surface impoundment discharge.

Unusual Features (dike integrity, power lines, terrain, etc.):

Status: (active, inactive, unknown) Active

History: (Worker or non-worker injury; complaints from public: previous agency action): Discharge use to go into stream above drinking water source. Public complaints. Discharge altered to different stream.

C. HAZARD EVALUATION

Organics have been found in low amounts in discharge and in surface runoff. Pond sediments may contain contamination. Mercury recently discovered around old furnace. Avoid direct contact with skin with all materials. Respiratory hazard low. Dust protection may be needed around old furnace.

D. SITE SAFETY WORK PLAN

PERIMETER ESTABLISHMENT: Map/Sketch Attached ___ Site Secured? ___

Perimeter Identified? ___ Zone(s) of Contamination Identified? ___

PERSONAL PROTECTION

Level of Protection A ___ B ___ C ___ D X

Modifications:

Surveillance Equipment and Materials: TYVEK booties, splash goggles, hard hats, gloves, boots.

DECONTAMINATION PROCEDURES: Dispose of TYVEK booties and gloves

Special Equipment, Facilities, or Procedures:

SITE ENTRY PROCEDURES: Permission of owner/operator should be obtained before entry.

Team Member	Responsibility

WORK LIMITATIONS (Time of day, etc.): Daylight hours

INVESTIGATION-DERIVED MATERIAL DISPOSAL: Samples will be sent to the laboratory for analysis. Samples will then be disposed of by the laboratory.

E. EMERGENCY INFORMATION

LOCAL RESOURCES

Ambulance: 911
Hospital or Emergency Room:
Poison Control Center: 1-800-462-0800 or 1-800-292-6678
Police:
Fire Department: 911
Airport:
Explosives Unit:
EPA Contact: 404/881-2234/Mrs. Camilla Warren

SITE RESOURCES

Water Supply:
Telephone:
Radio:
Other:

EMERGENCY CONTACTS

Mr. Dan Cooper, ADEM, 205/271-7732
EPA Emergency Spill Control 404/881-4062

F. EMERGENCY ROUTES

(Give road or other directions; attach map)

Hospital:

Other:

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

RCRA 3012
SITE SCREENING STUDY FORM

EPS Project Manager: W. Warren Date: 11/21/84

SITE INFORMATION

EPA I.D. No: ALD041511361

Site Name: Uniroyal, Inc. Street: Highway 169

City: Opelika County: Lee State: Alabama

Site Owner: Uniroyal, Inc.

Site Manager: Palmer Peterson Phone No: 205/745-6411

Address: P. O. Box, Opelika, AL 36801

Purpose of Study: To collect environmental and waste samples on and around the site to determine and characterize any hazardous materials present.

Site Sketch Attached: X Yes ___ No

SITE BACKGROUND

Site Description (including Waste Types and Dispositions):

The facility is a tire plant. Wastewater and runoff have been found to contain trace levels of organics. The origin of the organics is not known. Especially the surface runoff. The site has one abandoned and one active pond. The sediments may contain contaminants. The company is cleaning materials on the property and are working with ADEM on this. Company investigations recently found high levels of mercury around an old furnace.

METHODOLOGY

All sample collection, sample preservation and chain-of-custody procedures used during this investigation will be in accordance with the standard operating procedures as specified in the Quality Control/Quality Assurance Plan for the Analytical and Environmental Division of Environmental Protection Systems, Inc., revised August 31, 1984. All laboratory analyses and quality assurance procedures used during this investigation will be in accordance with standard procedures and protocols as specified in the Quality Control/Quality Assurance Plan for the Analytical and Environmental Division of Environmental Protection Systems, Inc., revised August 31, 1984, or as specified by the existing United States Environmental Protection Agency standard procedures and protocols for the contract analytical laboratory program.

SAMPLING REQUIREMENTS

No. Water Samples: 1 No. Soil/Sediment Samples: 5
No. Sludge Samples: ___ Other: ___

Split Samples Requested?: ___ Yes ___ No ___ Unknown

If yes, reason: _____

Sample Information: Duplicate Samples: One Per Site

		Organics			Metals			
Station	Type	Acid	B/N	Pest	Total	EPT	VOA	Other
UNR-SD1-OPD	Sed/Comp.	X	X					
UNR-SD2-OPD	Sed./Comp.	X	X					
UNR-SD3-APD	Sed./Comp.	X	X					
UNR-SD3-APD	Sed./Comp.	X	X					
UNR-WA1-APD	Water/Comp.	X	X					
UNR-SO1-BG	Soil/Comp.	X	X					
UNR-S02-FN	Soil/Comp				2/2 (Hg)			

Sources of organic contaminates should be looked for. Old furnace should also be inspected. Hg Contamination.

TOTALS:

Water	1
Soil	1
Sediment	4
Sludge	
Other	

LABORATORY RESOURCE REQUIREMENTS

Anticipated Date(s) of Sample Delivery: Jan. 1985

Analytical Needs:

Analysis	Water Samples	Soil Samples	Totals
Organics			
Acid Extractables:	1	5	6
Base/Neutrals:	1	5	6
Pesticides:			
Organics (Other:):			
Total Metals (Specified:):			
EP Toxic Metals (Specified:):			
VOA:			
Other:			

*Specific compounds to be looked for: Isophorone, Benzothiazole, O-T-Butylphenol, 2, 4, 6 - Trichlorophenol, 2 - Nitropropane, Nitropropane

PERSONNEL REQUIREMENTS

Field Personnel:

REGULATORY COORDINATION

EPA Project Officer: Joel Veater Phone No. 404/881-2234

Location: Atlanta, Georgia

Local Agency Contact: Steve Maurer Phone No. 205/271-7728

Location: Montgomery, Alabama

PROJECT SCHEDULE

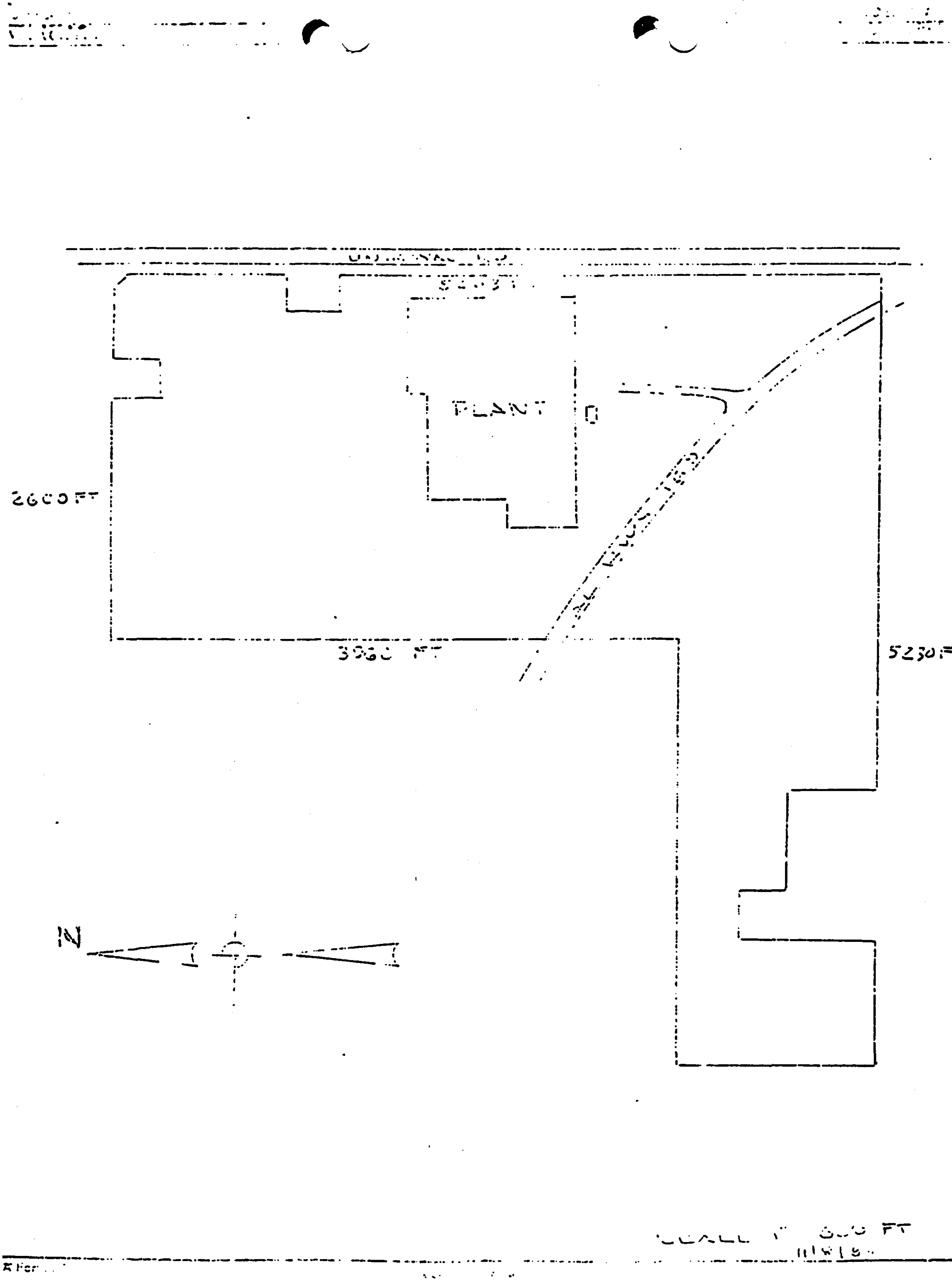
Site Screening Study Form Transmittal Date:

Field Study Date:

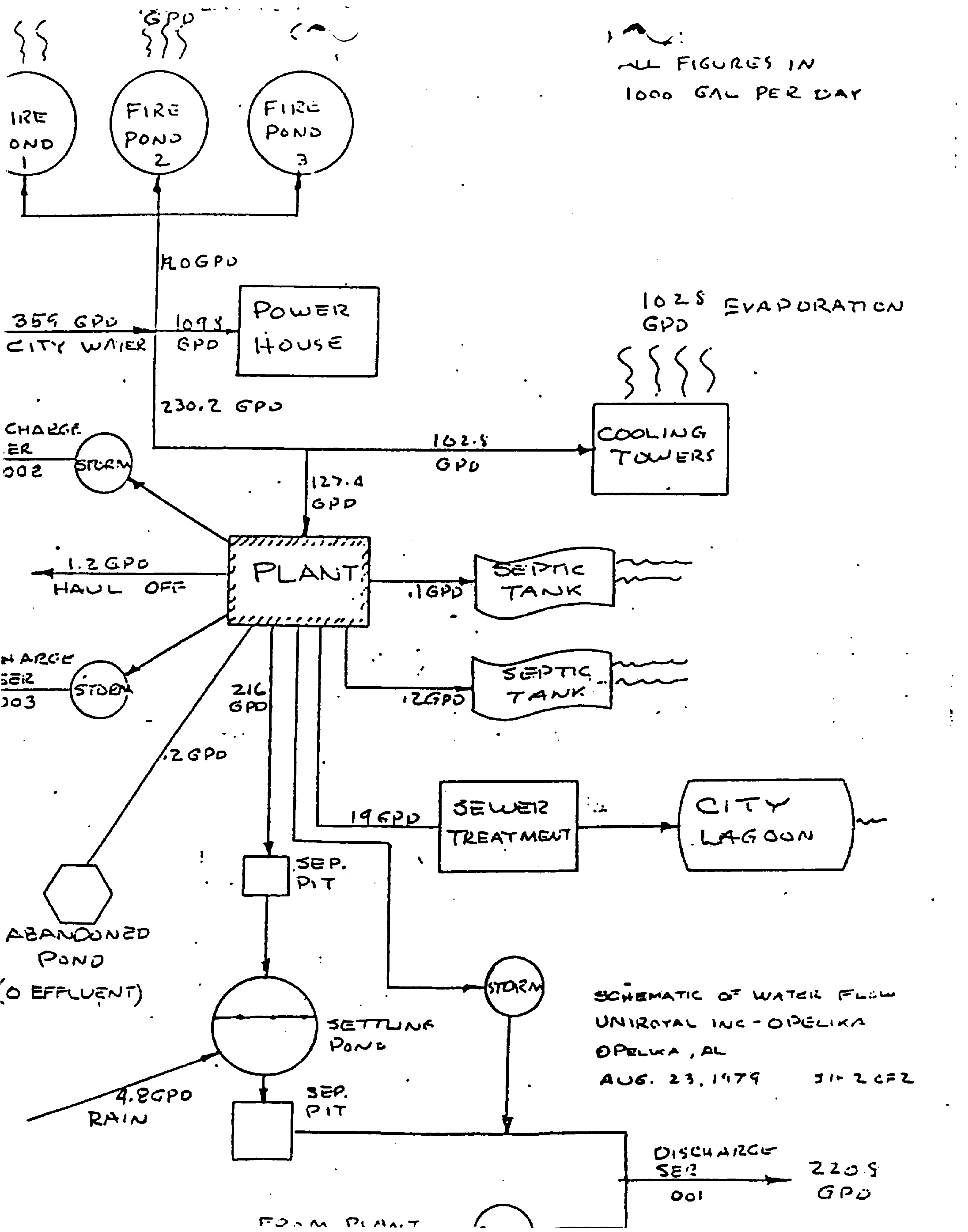
Anticipated Data Receipt Date:

Station Number	Remarks
UNR-SD1-OPD	Sediment from old pond.
UNR-SD2-OPD	Sediment from old pond.
UNR-SD3-APD	Sediment from active pond.
UNR-SD~~3~~4-APD	Sediment from active pond.
UNR-WA1-APD	Water sample from active pond.
UNR-SO1-BG	Soil background.
UNR-WA2-OPD	Water - old pond

Sources of organic contaminates should be looked for. Old furnace should also be inspected. Hg Contamination.



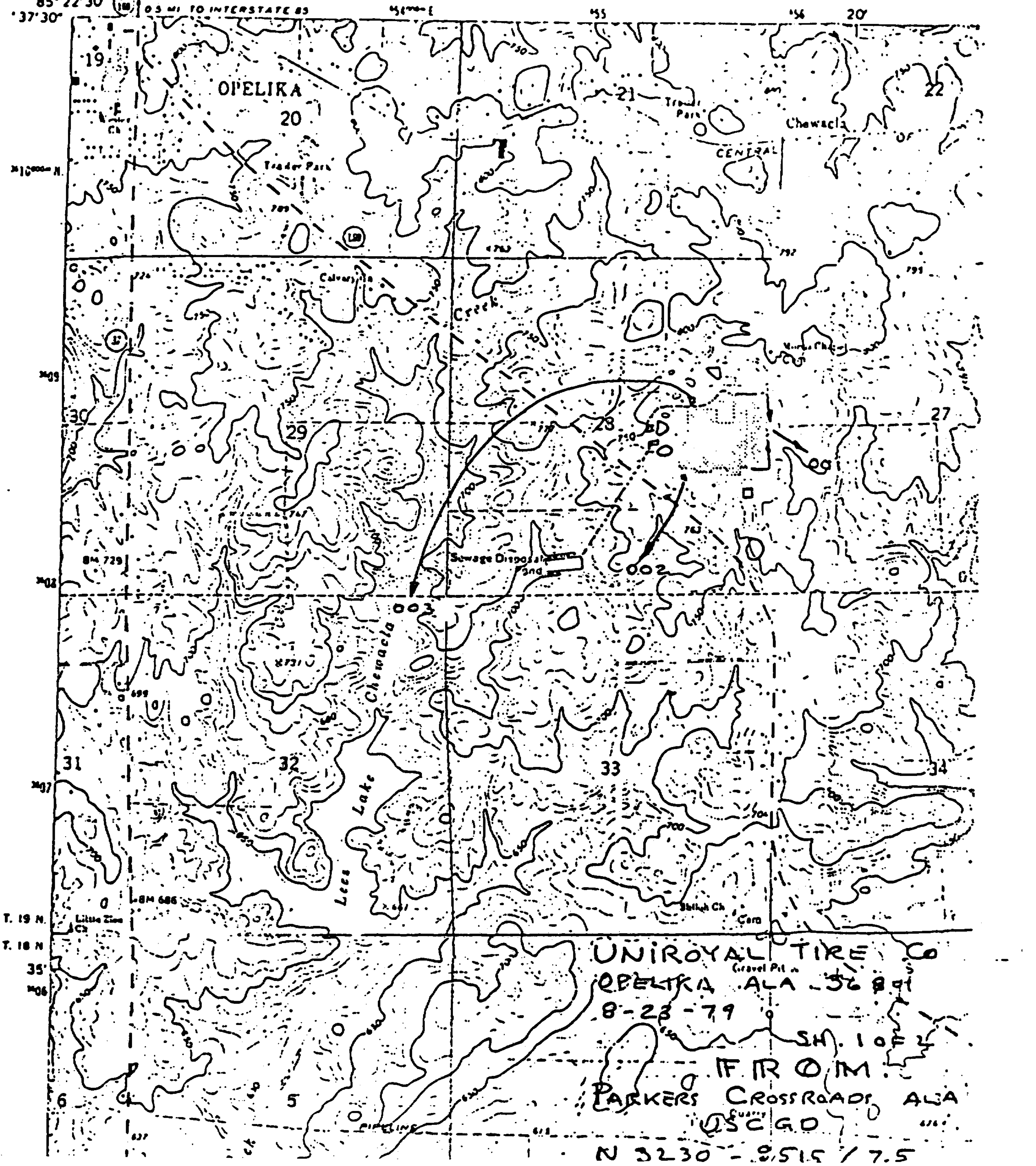
PLANT
2600 FT
3960 FT
5230 FT
N



SCHEMATIC OF WATER FLOW
UNIROYAL INC - OPELIKA
OPELIKA, AL
AUG. 23, 1979 51-2 CF2

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

------- PUMPED
——— SURFACE



EPA

POTENTIAL HAZARDOUS WASTE SITE
TENTATIVE DISPOSITION

REGION	SITE NUMBER

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335), 401 M St., SW, Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME Uniroyal, Inc	B. STREET HWY 169	
C. CITY Opelika	D. STATE AL	E. ZIP CODE 36801

II. TENTATIVE DISPOSITION

Indicate the recommended action(s) and agency(ies) that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED -- NO HAZARD					
B. INVESTIGATIVE ACTION(S) NEEDED (If yes, complete Section III.)	X		X		
C. REMEDIAL ACTION NEEDED (If yes, complete Section IV.)					
D. ENFORCEMENT ACTION NEEDED (If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)					

E. RATIONALE FOR DISPOSITION

Abandoned Pond may contain PCB, phenols. trace PCBs levels in storm water for past 10 yrs. Outfalls upstream from community water supply.

F. INDICATE THE ESTIMATED DATE OF FINAL DISPOSITION (mo., day, & yr.)	G. IF A CASE DEVELOPMENT PLAN IS NECESSARY, INDICATE THE ESTIMATED DATE ON WHICH THE PLAN WILL BE DEVELOPED (mo., day, & yr.)

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Camilla Warren	FTS 257-2234	11/06/84

III. INVESTIGATIVE ACTIVITY NEEDED

A. IDENTIFY ADDITIONAL INFORMATION NEEDED TO ACHIEVE A FINAL DISPOSITION.

State screening report

B. PROPOSED INVESTIGATIVE ACTIVITY (Detailed Information)

1. METHOD FOR OBTAINING NEEDED ADDITIONAL INFO.	2. SCHEDULED DATE OF ACTION (mo, day, & yr)	3. TO BE PERFORMED BY (EPA, Contractor, State, etc.)	4. ESTIMATED MANHOURS	5. REMARKS
a. TYPE OF SITE INSPECTION				
(1) Screening		State contractor		Chapel, any residential wells
(2)				
(3)				
b. TYPE OF MONITORING				
(1)				
(2)				
c. TYPE OF SAMPLING				
(1)				
(2)				

EPA Form T2070-4 (10-79)

Continue On Reverse

Continued From Front

III. INVESTIGATIVE ACTIVITY NEEDED and PART B - PROPOSED INVESTIGATIVE ACTIVITY (Continued)

d. TYPE OF LAB ANALYSIS				
(1)				
(2)				
e. OTHER (specify)				
(1)				
(2)				

C. ELABORATE ON ANY OF THE INFORMATION PROVIDED IN PART B (on front & above) AS NEEDED TO IDENTIFY ADDITIONAL INVESTIGATIVE WORK.

D. ESTIMATED MANHOURS BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES	1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES
a. EPA		b. STATE	
c. EPA CONTRACTOR		d. OTHER (specify)	

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY STRATEGY (On Site & Off-Site): List all emergency actions needed to bring site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the space below.

1. ACTION	2. EST. START DATE (mo,day,& yr)	3. EST. END DATE (mo,day,& yr)	4. ACTION AGENCY (EPA, State, Private Party)	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY (On Site & Off-Site): List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. EST. START DATE (mo,day,& yr)	3. EST. END DATE (mo,day,& yr)	4. ACTION AGENCY (EPA, State Private Party)	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

C. ESTIMATED MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES	1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES
a. EPA			b. STATE		
c. PRIVATE PARTIES			d. OTHER (specify)		

2. PROJECT MANAGEMENT SUM Y

Site Name: UNIROYAL, INC.
Site Number: ALD 041511361
Owner: UNIROYAL INC.
Operator: UNIROYAL INC.
Site Status: [X] Active [ ] Inactive [ ] Unknown
Priority: [ ] High [ ] Medium [X] Low [ ] None

3. FINAL DISPOSITION

I. EPS Final Review - Date: 9/28/84
Comments:

Site Inspection Required [X] Yes [ ] No

II. ADEM Review - Date: 10/10/84 SM
Comments:

Follow-up Action Required [X] Yes [ ] No

III. Final Disposition:
Review & revise Date:
Edited & correct Date:
Transmitted Date:
File close-out Date:
Initiate site inspection Date:

4. ADDITIONAL COMMENTS (ONGOING & FINAL)

AC

BE

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

September 17, 1984

Mr. Ashley Chadwick
Alabama Department of Environmental Management
1751 Federal Drive
Montgomery, Alabama 36130

Dear Mr. Chadwick:

Enclosed are copies of the test results from the ten (10) drums of unknown materials. As you see, several have hazardous characteristics. We are proceeding to submit samples to Chemical Waste Management for disposal.

Subsequent to this series of unknown materials, we have discovered somemore, including the two spills you requested analysis on, which we are processing.

Thank you for helping us with our program.

Very truly yours,

P.D. Peterson

P. D. Peterson, P.E.
Sr. Facilities Engineer

/eh

Enc.

HARMON ENGINEERING & TESTING

AUBURN INDUSTRIAL PARK, AUBURN, AL 36830-4399 (205) 821-9250

LABORATORY RESULTS

Uniroyal
Post Office Box 30
Opelika, AL 36803-0030

Attention: Mr. Palmer Petersen

HE&T PROJECT 623-04

DATE SAMPLE RECEIVED 8-7-84

DATE DATA TRANSMITTED 9-5-84

CLIENT JOB REFERENCE

HE&T Sample Number	Client Sample Identification	As mg/L	Ba mg/L	Cd mg/L	Cr mg/L	Pb mg/L	Hg mg/L	Se mg/L	Ag mg/L
10834	1	<0.1	<1	0.21	<0.1	<0.02	<0.1	0.01	<0.1
10835	2	0.1	<1	<0.01	0.1	<0.005	0.5	0.02	0.1
10836	3	<0.1	<1	<0.01	<0.1	<0.02	<0.1	0.04	0.1
10837	4	<0.1	<1	0.01	0.5	<0.03	11.8	0.03	<0.1
10838	5	<0.1	<1	<0.01	<0.1	<0.005	<0.1	0.03	<0.1
10839	6	<0.1	<1	<0.01	0.5	<0.01	<0.1	0.06	<0.1
10840	7	<0.1	<1	<0.01	<0.1	<0.005	<0.1	0.03	<0.1
10841	8	<0.1	<1	0.01	0.1	<0.01	1.1	0.06	0.4
10842	9	0.1	<1	<0.01	1.6	<0.005	<0.1	0.03	<0.1
10843	10	<0.1	<1	<0.01	<0.1	<0.005	0.1	<0.01	<0.1
ALLOWABLE CONCENTRATION		5.0	100	1.0	5.0	5.0	0.2	1.0	5.0

Approved for Transmittal

Terrence A White

Laboratory Manager

HARMON ENGINEERING & TESTING

AUBURN INDUSTRIAL PARK, AUBURN, AL 36830-4399 (205) 821-9250

LABORATORY RESULTS

Uniroyal
Post Office Box 30
Opelika, AL 36803-0030

HE&T PROJECT 623-04

DATE SAMPLE RECEIVED 8-7-84

DATE DATA TRANSMITTED 9-5-84

Attention: Mr. Palmer Petersen

CLIENT JOB REFERENCE

HE&T Sample Number	Client Sample Identification	FLASH POINT	CORROSIVITY pH S.U.	REACTIVITY CHEMICAL	REACTIVITY PHYSICAL	REACTIVITY THERMAL
10834	1	>100°C	5.5	-	-	-
10835	2	>100°C	11.6	-	-	-
10836	3	>100°C	4.6	-	-	-
10837	4	>100°C	1.2	-	-	-
10838	5	49°C	2.1	-	-	-
10839	6	52.5°C	2.2	-	-	-
10840	7	12.5°C	9.1	-	-	-
10841	8	42°C	10.4	-	-	-
10842	9	76°C	6.1	-	-	-
10843	10	>100°C	10.8	-	-	-

HE

Approved for Transmittal

Thomas A White

Laboratory Manager

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: AL | 02 SITE NUMBER: D041511361

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): UNIROYAL, INC	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: HIGHWAY 169
03 CITY: OPELIKA	04 STATE: AL · 05 ZIP CODE: 36801 · 06 COUNTY: LEE · 07 COUNTY CODE: 081 · 08 CONG DIST: 03
09 COORDINATES LATITUDE: 32 36 46 · LONGITUDE: 085 20 33.	

10 DIRECTIONS TO SITE (Starting from nearest public road): UNIROYAL IS AT THE CORNER OF HIGHWAY 169 AND UNIROYAL RD.

III. RESPONSIBLE PARTIES

01 OWNER (If known): UNIROYAL INC	02 STREET (Business, mailing, residential):
03 CITY: MIDDLEBURY	04 STATE: CT · 05 ZIP CODE: 06749 · 06 TELEPHONE NUMBER: (203) 573-2000
07 OPERATOR (If known and different from owner):	08 STREET (Business, mailing, residential):
09 CITY:	10 STATE: · 11 ZIP CODE: · 12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
X A. PRIVATE ☐ B. FEDERAL: ______ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: ______ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
X A. RCRA 3001 DATE RECEIVED: 11/18/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: __/__/__ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
X YES DATE 5/17/84 (MONTH DAY YEAR)
☐ NO
BY (Check all that apply) X A. EPA ☐ B. EPA CONTRACTOR X C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: ______ (Specify)
CONTRACTOR NAME(S): ______

02 SITE STATUS (Check one)
X A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1963 (BEGINNING YEAR) | ______ (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
D003 - WASTE RUBBER CEMENT CONTAINING RUBBER NAPTHAS AND OTHER ORGANICS (PHENOLICS)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
LOW POTENTIAL HAZARD. NO HAZARDOUS WASTES DISPOSED ON-SITE. SITE IS REGULATED BY ADEM UNDER GENERATOR STATUS. DEFICIENCIES IN REQUIREMENT (STORAGE AND SPILLS) ARE BEING ADDRESSED CURRENTLY. STORM WATER HAS SHOWN TRACE (PPB) LEVELS OF ORGANICS FOR ABOUT 10 YEARS. THIS WATER HAS BEEN DIVERTED THROUGH PONDS, ONE OF WHICH HAS BEEN ABANDONED. POND SEDIMENTS MAY CONTAIN THESE POLLUTANTS

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) X C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: STEVE MAURER SCM	02 OF (Agency/Organization): ADEM		03 TELEPHONE NUMBER: (205) 271-7728
04 PERSON RESPONSIBLE FOR ASSESSMENT: DONALEA DINSMORE	05 AGENCY:	06 ORGANIZATION: EPS	07 TELEPHONE NUMBER: (601) 922-8242 · 08 DATE: 9/28/84 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
AL	D041571361

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES *(Check all that apply)*

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☒ C. SLUDGE
- ☐ D. OTHER ______ *(Specify)*
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE *(Measures of waste quantities must be independent)*

TONS ______
CUBIC YARDS UNKNOWN
NO. OF DRUMS ______

03 WASTE CHARACTERISTICS *(Check all that apply)*

- ☒ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☒ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	UNKNOWN		
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES *(See Appendix for most frequently cited CAS Numbers)*

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SLU	SLUDGE FROM PONDS	999	SI	UNKNOWN	PPB?

V. FEEDSTOCKS *(See Appendix for CAS Numbers)*

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

ADEM FILES, STAFF COMMUNICATION, CONVERSATION WITH PALMER PETERSON OF UNIROYAL.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION *(Include name(s) of species)*

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES *(Spills/runoff/standing liquids/leaking drums)* — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: ________

IV. COMMENTS

V. SOURCES OF INFORMATION *(Cite specific references, e. g., state files, sample analysis, reports)*

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: ________ *(Acres)* 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: ________) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ________ 04 NARRATIVE DESCRIPTION

POTENTIAL HAZARDOUS WASTE S
PRELIMINARY ASSESSMENT
EPS FORM 3012-I
EPS ANALYST/REVIEWER CHECKLIST

Site No. ALD041511361
Site Name UNIROYAL, INC

Instructions: To be used in conjunction with EPA Form 2070-12 (7-81). Attach on inside front of site folder. Initial and date for all assessment entries under appropriate part/subpart as completed. initial/date in black for final assessment; in red if higher level (additional) assessment is in order. Follow same procedure for review process.

Review Codes: 1-Toxicology Review; 2-Chemical Review; 3-Ecology Review; 4-Chemical Engineer Review; 5-Geotechnical Review; 6-Project Manager Review; 7-Final Review

1. ANALYST/REVIEW STATUS

Form 2070 Part Number	Analyst/ Date	Review Code 1	Review Code 2	Review Code 3	Review Code 4	Review Code 5	Review Code 6	Review Code 7
1.I.-VI.	DD 9/28/84							
							Sw 9/28	Sw 9/28
2.I.								
2.II.								
2.III.								
2.IV.								
2.V.								
2.VI.	DD						Sw	Sw
3.I.								
3.II.A								
3.II.B								
3.II.C								
3.II.D								
3.II.E								
3.II.F								
3.II.G								
3.II.H								
3.II.I								
3.II.J								
3.II.K								
3.II.L								
3.II.M								
3.II.N								
3.II.O								
3.II.P								
3.III.								
3.IV.								
3.V.								

*No further assessment/review required, enter NA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PA FORM 2012-II

TELEPHONE LOG SHEET

1. Site Identification:
Site number: ALD041511361
Site name: Uniroyal, Inc.

2. Interview Data: (Party called)
Name: Palmer Peterson
Position: Chief M.E.
Firm: Uniroyal
Address: P.O. Box 30
Opelika, AL/ 36801
Telephone No.: (205) 745-6411

3. EPS Analyst Data:
Name: Donalea Dinsmore
Purpose of call: Investigate file information

Form 2070-12 (7-81) P.N.
Date of call: 9-21-84

4. Interview Narrative Summary: To best of his knowledge, they had never used PbO. Before Uniroyal, there was only forestland. Only tires have ever been landfilled at this site and this is documented in the file. Doesn't remember about the material placed in the Talapoosa landfill and doesn't think it was much because that is so far away from the plant. They did landfill some waste oil and they also burned some under a permit for heat recovery. The material which went to the Opelika landfill was mainly water and rubber dust. Most of the waste rubber cement went into drums and was stored on a farm. This was cleaned up when RCRA came into effect. They generate about 30 drums per year of the rubber cement. The abandoned pond received mainly oily water and rubber dust with water. It was abandoned by mutual consent because the residents were concerned about contamination of the drinking water source. They bagan pumping the water to the other creek. The drums that were found at the site in the recent site inspection were from spill material in the process. They had intended to rework the material but waited too long. The spill was in a contained area and they had to dig it up. The material solidifies at about 110°F so it could easily be totally removed. They have hired a student to identify waste materials in the plant and have about 50 drums of unknown material. This includes discontinued process products, samples and cleaners and drums with broken seals. They do have a small PCB leak now and other than the reported problem in the past, they know of no other instances.

5. Disposition/Comments:
Check with Ashley Chadwick about the results of the recent testing.

6. Comments: Any additional sites used by this company?
Location:
Dates of use:
Description of waste:

Comments:

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
EPS FORM 3012-III

INDUSTRIAL NARRATIVE SHEET

1. Site Identification:

Site number: ALD041511361

Site name: Uniroyal, Inc.

Site county: Lee

2. Industrial Narrative Summary:

Company Name: Uniroyal, Inc.

Address: Highway 169
Opelika, AL 36801

Telephone No.: 205/745-6411

Contact: Palmer Peterson

Discussion: Uniroyal, Inc. has manufactured tires at this site since 1963. Prior to their occupation of this site, the land was used for farming. Their waste materials consist of waste rubber cement (about 30 drums/year) and waste oil. The waste oil was burned for a period under a permit for heat recovery. The files indicate that they have disposed of rubber - gasoline wastes at local landfills, specifically the Opelika and Tallapoosa county landfills. The details and extent of disposed material were not recalled but they felt that very little material was placed in the Tallapoosa landfill because it was so far from the site. The main waste material which was placed in the Opelika landfill was water and rubber dust. Most of the waste rubber cement was stored on a farm in the area in drums and these drums were removed prior to RCRA. There was public concern about water discharges from the site when they first began operations. The outfalls were directly upstream from the community drinking water supply and there were trace levels (ppb) of six organic chemicals in the stormwater runoff. These six organics are nitropropane, diisopropylcarbinol, isophorone, benzothiazole, t-butylphenol and thrichlorophenol. This stormwater was diverted through ponds at the site and after some debate, the company agreed to discharge the water into another creek in the area. One of the ponds used has been abandoned and they currently are using a settling pond. Annual monitoring of the rainwater run-off since 1976 has indicated the presence of these compounds. When questioned about the source of these materials, the company indicated that they thought they came from the materials they use for accelerators in the process. There is some concern that the ponds and sediments may contain residual levels of these compounds.

The company has recently made an effort to locate any unknown materials at the site and dispose of them. They have collected approximately 50 drums of material which has been analyzed and are in the process of having this material removed. The initial test results indicate potential incompatible wastes and toxic levels of mercury, low flash points and corrosivity. Removal of these materials as well as the identification of their sources is currently being addressed by ADEM. Storage areas for these materials will be inspected in the near future and areas where spills have been identified will be reinspected to assure that these areas have been cleaned satisfactorily. Although the compliance history for this company is not good, problems are being addressed by ADEM. The company has withdrawn from interim status and are being regulated under generator standards.

3. Disposition:

Settling ponds currently being used and the abandoned pond indicated in the facility line drawing warrant inspection as organics have been detected in the water from the facility. Other areas are being regulated by ADEM under generator standards; however, potential sources for the organic contamination need to be noted. This company has withdrawn from interim status.

4. Comments:

Although specific details are not available for time periods involved, this company has used both the Tallapoosa landfill and the Opelika landfill for waste materials. They indicate that some gasoline-dissolved rubber was placed in the Tallapoosa landfill while the material in the Opelika landfill was mainly water and rubber. The Opelika landfill was probably used more extensively than the Tallapoosa as it is in closer proximity to the site. They also indicate that they did store drums of rubber cement on a farm in the area (unidentified) but that they were removed prior to RCRA.

ENVIRONMENTAL PROTECTION SYSTEMS, INC.

Alabama RCRA 3012 Site Ranking Scheme
EPS Form 3012-V

Site Name Uniroyal, Inc
Site Number ALD041511361

Preliminary Assessment Ranking Scheme to Determine Which Sites Merit Further Action.

(Select one answer for each of the following seven questions)

1. Are Hazardous Substances Present?		
A. Confirmed on site!	10 points	
B. Suspected at site!	5 points	X
C. It is unknown!	2 points	
D. No hazardous substances	0 points	
E. RCRA facility only!	0 points	
2. Is There a Pollution Dispersal Pathway?		
A. Direct to surface and/or groundwater.	5 points	
B. Indirect to surface and/or groundwater.	4 points	
C. Suspected to surface and/or groundwater.	3 points	X
D. Not known for sure.	2 points	
E. No pathway.	0 points	
3. Characteristics of Human Population?		
A. High density.	5 points	
B. Medium density.	4 points	
C. Low density.	3 points	X
D. No population.	2 points	
4. Characteristics of Natural Environment?		
A. Critical habitat including endangered species, etc.	5 points	
B. Sensitive habitat.	3 points	
C. Common less sensitive habitat.	2 points	X
5. How is Human Population Affected By Site?		
A. Public utility of drinking water from site.	5 points	
B. Direct public access to site.	4 points	
C. Public access to affected surface water.	3 points	
D. Only potential for human population contact.	2 points	X
E. Low or no potential for contact.	1 point	
6. Facility Management Practices at Site?		
A. Site actively supervised and managed currently with monitoring reports and other permit and report requirements.	1 point	
B. Site inadequately managed records not up-to-date.	3 points	X

C. Site not currently managed or regulated. | 4 points | ____
D. Abandon site. | 5 points | ____

7. Potential Responsible Parties for Site Operations?

A. Controlling party identified and accepts responsibility for site.	1 point	X
B. Suspected controlling party identified but does not accept responsibility for site.	4 points	
C. No responsible party available.	5 points	

Ranking Score =

$$\underset{\#1}{5}\left[\times \underset{\#2}{3} + \underset{\#4}{2} + (\underset{\#3}{3} \times \underset{\#5}{2}) + \underset{\#6}{3} + \underset{\#7}{1}\right]$$

TABLE 1. Ranking Assessment

NUMERICAL RANGE	PRIORITY ASSESSMENT
0-50	NONE
50-150	LOW
150-300	MEDIUM
300-450	HIGH

Ranking Score: 75

Priority Assessment: LOW

February 26, 1985

CERTIFIED
RETURN RECEIPT REQUESTED

Mr. P. D. Peterson
Uniroyal Tire Company
Division of Uniroyal, Inc.
P. O. Box 30
Opelika, Alabama 36801

RE: Extension Request - ALD 041 511 361

Dear Mr. Peterson:

We are in receipt of your letter dated February 4, 1985, requesting an extension for disposal of hazardous wastes stored on-site at your Facility. At this time, we cannot approve this request. A review of our Files has shown consistant non-compliance with the Alabama Hazardous Waste Management Regulations for disposal and other regulatory requirements. This history of non-compliance is being reviewed for referral to the General Counsel of the ADEM for enforcement action; therefore you will be considered in violation of the Alabama Hazardous Waste Management Regulations until a resolution of any impending enforcement activities has been established.

Should you have any questions concerning this matter, please contact Mr. Ashley Chadwick at (205) 271-7737.

Sincerely,

Bernard E. Cox, Jr., Chief
Hazardous Waste Branch
Land Division

BEC/ATC/th

cc: Bill Holland, USEPA

File: Gen.

August 17, 1984

July 30, 1984

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. P. D. Peterson
Senior Mechanical Engineer, P. E.
Uniroyal Tire Company
Division of Uniroyal Inc.
P. O. Box 30
Opelika, AL 36801

Re: Facility ALD 041 511 361

Dear Mr. Peterson:

On May 17, 1984, Mr. Joe Brewer of the Alabama Department of Environmental Management, Land Division, accompanied by Mr. Larry Dunning of USEPA met with you and inspected your facility. The purpose of the inspection was to determine compliance of your facility with Federal and State hazardous waste generator standards.

Below are the deficiencies noted during the inspection by section numbers as found in the Alabama Hazardous Waste Management Regulations, which are "substantially equivalent" to the Federal RCRA regulations.

Section 4-245.01 - A person who generates a solid waste as defined in Section 4-231 (should read 4-230) must determine if that waste is a hazardous waste as outlined in a, b and c of this section. There were approximately 150 - 200, 55 gallon drums of waste stored on-site, none of which were identifiable as to the actual contents of each drum. These drums of waste must be analyzed as required in pargraph c.

Section 4-247 - Analyses of each waste stream must be accomplished and kept on file for a period of at least three years. Waste codes used in completing the manifest must be consistent. D001 has been used interchangeably with D003 to identify the waste cement on the previous manifests.

Section 4-249.01(b) - Containers which are used to store hazardous waste must be containers that meet the requirements of Section 4-256.17. The damaged drums must be replaced; open drums must be closed during storage; and must not be handled or stored in a manner which would cause it to leak or rupture.

The drum storage area must be inspected weekly looking for leaks or deterioration. These inspections are to be recorded on an inspection log. Remedial action should also be indicated on this log.

Section 4-249.01(c) - The accumulation date must be clearly marked on each drum.

Uniroyal Tire Company
Page 2
July 30, 1984

Section 4-249-01(d) - Each drum must be marked and labeled as required by Section 4-250.

<u>Section 4-249.01(e)</u> - The facility SPCC, Item III indicates that tops of drums are loosely attached until just prior to shipment. Although we realize the necessity of venting highly volatile organic compounds, this statement is in direct conflict with the regulations mentioned above and, therefore, should be removed from the plan.

Item IV of your SPCC Plan must list names, addresses and phone numbers of all persons qualified to act as emergency coordinator (Section 4-256.08(a)).

The SPCC Plan must indicate that the emergency coordinator has the authority to commit the resources needed to carry out the plan.

The SPCC Plan must include the documentation required to meet the requirements of Section 4-256.08(d), (f), (g), and (h).

Personnel Training records must be maintained and updated annually in accordance with Section 4-256.05.

<u>Section 4-251</u> - The area on the ground behind the Flexon Tank has been contaminated by spillage of an oily substance. Clean up of such spills are generally regulated by ADEM's Water Division. However, since the spill residue has not been identified, you are required to identify the waste in accordance with the procedures set forth in Section 4-245. The spilled material must be removed from the ground and properly disposed of if it is found to be hazardous. If it is not hazardous, test results must be submitted to us for evaluation and approval of disposal in an sanitary landfill. Clean up of the area must be accomplished.

Uniroyal Tire Company
Page 3
July 2[illegible], 19[illegible]

All deficiencies noted above must be corrected within fifteen (15) days receipt of this letter. Failure to comply with these requirements will result in the matter being referred to our Legal Staff for enforcement action.

A follow-up inspection will be performed immeidately after the fifteen days notice has expired.

If you have questions regarding this matter, please contact Mr. Joe Brewer at (205) 271-7700.

Sincerely,

Bernard E. Cox, Jr., Chief
Industrial and Hazardous Waste Section
Land Division

BEC/JB/slw

cc: Mr. Bill Lott - Water Division

Mr. James Scarbrough - USEPA

File: Uniroyal Tire Co., (G) Inspection File

1P

Uniroyal
Lee Co

Commissioner
JOAN K. LEAVITT, M.D.

Oklahoma
State Department of Health

1000 Northeast 10th Street
Post Office Box 53551
Oklahoma City, Oklahoma 73152

Solid Waste
1983 MAY

April 21, 1983

Uniroyal Tire Company
P.O. Box 1867
Ardmore, Oklahoma 73401

Attention: Bill Sutherland

Dear Mr. Sutherland:

A review of the analysis submitted with regard to your waste oil has shown this material is not a controlled industrial waste by characteristic. Therefore, its use as boiler fuel would not be restricted by this department. The material need not be accompanied by a controlled industrial waste manifest.

The only remaining step would be to get approval from State of Alabama. Once this is done, the material may be moved. Remember to include the quantity of oil generated on your quarterly report.

Very truly yours,

Donald A. Hensch

Donald A. Hensch, P.E.
Director, Industrial Waste Division

DAH/CJB/js

Inspection Uniroyal Lee Co.

STATE OF ALABAMA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Mailing Address:
State Capitol
Montgomery, AL 36130
Telephone: 205/277-3630

April 14, 1983

Mr. Palmer Peterson, P. E.
Uniroyal Tire Company
P. O. Box 30
Opelika, Alabama 36801

Re: Uniroyal Tire Company
ALD 041 511 361

Dear Sir:

This is to acknowledge receipt of your request to withdraw your Part A, RCRA Permit Application. Since Alabama has Phase I Authorization, it will be our responsibility to determine if your request should be honored.

Based upon the information you supplied, it appears that your facility is no longer treating, storing, or disposing of hazardous waste and is, therefore, not subject to Alabama's Hazardous Waste Management Regulations. Therefore, your request to withdraw your Part A Application is granted. However, you should be aware that as a generator of hazardous waste you must meet the generator requirements of RCRA as specified in 40 CFR 262.

You should be aware that your request to withdraw interim status means that you may not treat, store, or dispose of hazardous waste without a permit issued under the authority of Code of Ala. 1975, Section 22-30-12, as amended, and the Regulations adopted thereunder.

Should you have questions or comments, please feel free to contact this office.

Sincerely,

Bernard E. Cox, Jr., Chief
Industrial and Hazardous Waste Section
Land Program

BEC:rc

cc: Mr. James Scarbrough
EPA Region IV

‹OVED BY:

PROCESS CONTROL

RAW MATERIAL WORK ORDER

REQUESTED BY: BILL SUTHERLAND MATERIAL TO BE TESTED: Waste OiL ~~RECLAIM OIL~~

DATE: 4-7-83 VENDOR: —

DEPARTMENT NO.: ENGINEERING RECEIVOR NO.: —

ANY IDENTIFICATION NUMBERS: LOT NO.: — SEAL BIN NO.: —

SPOOL NO.: — STOCK NO.: — OTHER: —

TESTING REQUESTED: FLASH POINT - OPEN CUP

REASON FOR REQUESTING TESTING: TO DETERMINE SHIPPING CLASSIFICATION IF ABOVE 140°F PER BILL SUTHERLAND, IT IS NOT A HAZARDOUS MATERIAL (As per Alabama)

EQUIPMENT CALIBRATION:

RESULTS OF TESTING:

FLASH POINT — > 210°F

TESTING DONE BY JC & RAS

DATE 4/11/83

STATE OF ALABAMA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Mailing Address:
State Capitol
Montgomery, AL 36130
Telephone: 205/277-3630

ALABAMA GREAT SEAL

January 25, 1983

M E M O R A N D U M

TO: Buddy E. Cox, Jr.

FROM: Frances Pardue F.P.

RE: Uniroyal, Inc. (Lee County) - Withdrawal of Part A

The writer feels that Uniroyal, Inc. located in Lee County should be allowed to withdraw their Part A and remain a generator with 90 day storage. On their Part A, Uniroyal indicates that they have an incinerator and that their waste is hazardous due to ignitability.

Based upon discussions with Mr. Palmer Peterson of Uniroyal and inspection of the facility, what Uniroyal actually has is a boiler in which they burn waste oil. They also have container storage of other ignitable waste which is shipped to Chemical Waste Management in Emelle, Alabama. Mr. Peterson has assured me that he would stay within the 90 day storage limit.

FP:rc

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

January 18, 1983

Re: Permit AL0000621

State of Alabama
Department of Environmental Management
NPDES Division
State Capitol
Montgomery, Alabama 36130

Gentlemen:

Organic scans required by reference Permit 002 and 003 have been performed and the results are as follows:

Chemical	Max Amt. 002 and 003
Isophorone	0.2 ppb
Benzothiazole	0.4 ppb
o-t-Butylphenol	0.2 ppb
2,4,6-Trichlorophenol	0.2 ppb
2-Nitropropane	0.2 ppb
Nitropropane	0.2 ppb

The comment sheet from our test lab has been included.

Very truly yours,

P. D. Peterson

P. D. Peterson, P.E.
Engineering

/eh

Enc.

RECEIVED
JAN 28 1983
WATER IMPROVEMENT
COMMISSION

B&L

Francis

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

January 11, 1983

JAN 1983
RECEIVED
Solid Waste

State of Alabama
Department of Environmental Management
State Capitol
Montgomery, Alabama 36130

Gentlemen:

Re: Facility No. ALD041511361

After careful consideration of activities for the past year, Uniroyal, at Opelika, has decided to withdraw our application for a TDS Hazardous Waste facility. We will, however, remain a generator because of our involvement with "ignitable" materials.

Please provide forms to withdraw Part A of the permit application and advise what needs to be done to be listed as a "generator" only.

Very truly yours,

P. D. Peterson

P. D. Peterson, P.E.
Engineering Department

/eh

c: Mrs. F. Pardue
R. C. Niles - Oxford

Uniroyal
Lee Co

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P. O. Box 30
Opelika, Alabama 36801

December 3, 1982

DEC 1982
RECEIVED
Solid Waste

Mr. Bernard E. Cox, Jr., Chief
Hazardous & Industrial Waste Section
Land Program
State of Alabama
Department of Environmental Management
State Capitol
Montgomery, Alabama 36130

Dear Mr. Cox:

I have received your letter of November 22, advising of an interim status inspection on December 16. Uniroyal will be pleased to have this inspection, however, it is our intention to not be a TDS facility. Our plans were to restate our position at the time we were asked to complete Form B. The reason we applied for TDS status is because we burn waste oil for energy and since waste oil was at one time considered a hazardous substance we applied in anticipation of this becoming a treatment measure. But, now that oil is not classified hazardous, there is no need for us to be a treatment facility.

Perhaps at the time of your inspection we can discuss our situation. Anyway, I will welcome your advice.

Very truly yours,

P. D. Peterson

P. D. Peterson, P.E.

/eh

File to: Facility Uniroyal

County Lee

State of Alabama

DEPARTMENT OF PUBLIC HEALTH

State Office Building
Montgomery, Alabama 36130

IRA L. MYERS, M.D.
STATE HEALTH OFFICER

MEMORANDUM

DATE: August 25, 1982

TO: Jack Honeycutt

FROM: Frances Pardue FP

RE: Complaint

FACILITY NAME: Uniroyal

FACILITY NO.:

CONTACT: Mr. Palmer Peterson

INSPECTION DATE: August 19, 1982 TIME: 1:00 p.m.

On August 19, 1982, Joe Brewer and the writer met with Mr. Palmer Peterson at Uniroyal to discuss the complaint regarding the disposing of bags containing residue that is hazardous waste at Opelika Sanitary Landfill. We walked through the area of the plant which is involved in generating the dust residue and bags. These bags were mainly those of carbon black and sulfur. There were a few labeled a catalyst (oxidizer) and titaniun dioxide (TiO_2). None of these are hazardous wastes. The practice of disposing of these waste residue in a sanitary landfill has not caused any problems in the past.

The manifests were also checked. It was noted that the manifests corresponded to the ones examined earlier at Harry Daniel's Construction Company. Thus, it appears that the hazardous waste shipments to Emelle are being handled properly.

FP:rc

ADPH-F-SW-11/6/81

I/W Uniroyal
Lee Co.

State of Alabama

DEPARTMENT OF PUBLIC HEALTH

State Office Building
Montgomery, Alabama 36130

IRA L. MYERS, M.D.
STATE HEALTH OFFICER

July 26, 1982

M E M O R A N D U M

TO: Mr. Buddy Cox, Chief
Hazardous Waste Section

FROM: Mr. Jack Honeycutt, Chief JH
Solid Waste Section

RE: Waste from Uniroyal Plant in Opelika

On this date, Mr. Gerald Ford complained to this office that Uniroyal in Opelika was disposing of bags containing dust residue that is hazardous at the Opelika sanitary landfill. Mr. Ford is associated with the Union and can be reached at 749-2084.

Mr. Ford also reported that Uniroyal had contracted with a Mr. Harry Daniel to carry liquid waste to Emelle. Mr. Daniel, however, is not hauling the waste to Emelle but to a location in Camp Hill where he is refining the waste and dumping the residue. Mr. Ford reports Mr. Daniel picks up all type of liquid waste from Uniroyal.

Uniroyal and the Union are in a dispute right now so these complaints may not be valid.

Mr. Bill Lett is Safety Director at Uniroyal.

JH:cc

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P. O. Box 30
Opelika, Alabama 36801

March 4, 1982

Re: Permit AL0000621

State of Alabama
Water Improvement Commission
Public Health Services Building
Montgomery, Alabama 36130

Attention: Mr. Bill Lott

Dear Mr. Lott:

Organic scans required by reference permit for outfalls .002 and .003 have been performed and the results are as follows:

Chemical		.002 South	.003 North
Isophorone	-	1.7 ppb	1.8 ppb — EPA 440/5-80-056 WAL
Benzothizole	-	.7 ppb	.5 ppb
O-t-Butylphenol	-	.3 ppb	.5 ppb
2,4,6 Trichloropherol	-	1.2 ppb	1.5 ppb
2-Nitropropane	-	2.9 ppm	68 ppb

The comment sheet from our test lab has been included.

Very truly yours,

P. D. Peterson, P.E.
Engineering

/eh

Enc.

ANALYTICAL RESULTS, PARTS PER BILLION

	NORTH	SOUTH
Nitropropane	4.	3.
Diisopropylcarbinol	<0.5	<0.5
Isophorone	<0.5	<0.5
Benzothiazole	<0.5	1.
o-t-Butylphenol	<0.5	<0.5
2,3,4 Trichlorophenol	0.6	0.6

ORGANIC SCAN RESULTS

CHEMICAL	1979		1978 Jan.		1978 Aug.		1977 Aug.		1977 April		1976 Jan.		1976	
	By Uniroyal		By Uniroyal		By EPA		By Uniroyal		By Uniroyal		By Uniroyal		By EPA	
	PPb		PPb		PPb		PPb		PPb		PPb		PPb	
	003	004	003	004	003	004	003	004	003	004	003	004	003	00
NITROPROPANE	2.2	1	3	.6	* ND	* ND	< 4	< 4	< 4	20	180	470	11	6200
DIISOPROPYLCARBINOL	1.7	.5	2	.6	ND	ND	< 4	< 4	4	2	9	-	1	10
ISOPHORONE	.7	1	2	< .2	ND	ND	-	< 7	13	12	-	95	18	33
BENZOTHIAZOLE	4.4	<1	13	1	ND	ND	480	< 9	17	5	49	290	-	190
T-BUTYLPHENOL	4.7	5	< 5	< .2	ND	ND	< 2	< 2	< 6	< 6	-	6	-	25
TRICHLOROPHENOL	2.5	4	1	1	ND	ND	<14	< 4	4	4	-	14	76	[illegible]

*ND - Non-detected

UNIROYAL, INC.
OPELIKA PLANT

March 20, 1980

P. D. Peterson

February 25, 1980

OPELIKA EFFLUENT

"24 Hour Composite, Uniroyal Opelika, North Outfall,
Noon 1/14/80 - Noon 1/15/80

004

The sample of north outfall water has been analysed with the following results:

p.p.b. TRACE COMPONENTS IN WATER

COMPONENT	CONCENTRATION, p.p.b		
	Method A	Method B	Method C
Nitropropane	---	<0.7	1.
Diisopropyl carbinol	<0.2	<0.4	0.5
Isophorone	<0.2	<1.	0.5
Benzothiazole	0.7	<4.	<1.
t-Butylphenol	3..	5.	3..
2,3,4 Trichlorophenol	4.	<16.	<2.

METHOD A

This method is an extraction with methylene chloride along the lines of the method attached to George L. Harlow's (EPA) communication to Mr. Vold. Rotary evaporation was substituted for Kaderna-Danish concentration. See chromatograms 13-(2), 13-(3), 13-(4), 16-(2), 16-(3), 16-(4), 16-(6). Later work suggests that the very poor recovery of nitropropane and diisopropyl carbinol is not due to their volatility and conseqent loss during concentration, but is rather due to very unfavorable partitioning between water and the organic phase.

RADIAL BOTTOM CEMENT

11079	RUBBER		4.3%
11083	RUBBER		4.4%
476	TO 103 / TO 107		1.4%
SO 141		TOLUENE	19%
SO 124		GASOLINE	70%

RADIAL END CEMENT

11079 / 11083		7%
476	TO 103 / TO 107	1%
50149		92%

INVESTIGATION OF UNIROYAL
WASTEWATER DISCHARGES
Opelika, Alabama

INVESTIGATORS

Messrs. Tom Cavinder and George Leverette of the U. S. Environmental Protection Agency, Surveillance and Analysis Division, investigated wastewater discharges from the subject industry on November 4-5, 1974. Only wastewater discharged into Chewacla Creek were sampled. Messrs. Palmer Peterson and Robert Sweet served as plant contacts. Mr. John Guthrie of the Alabama Water Improvement Commission accompanied EPA personnel on November 5 and split samples.

MANUFACTURING PROCESS AND WASTEWATER DISCHARGES

The Uniroyal Plant at Opelika produces pneumatic tire casings for passenger cars and trucks. The production capacity of the facility is 700,000 lbs/day.

Sanitary wastes are discharged into the Opelika sewerage system with a small portion of the sanitary wastes discharged into septic tanks. Four process/runoff waste streams discharge into Chewacla Creek.

Wastewater from wet dust collectors and condensate from the tire molding plant are discharged through outfall 001 (photographs I & II) after treatment. Treatment consists of a 0.5 acre settling pond. During the survey, the pond level was well below the discharge pipe invert.

Outfall 002 (photographs III & IV) is the major outfall from this facility. Wastewater contain discharges from the wet dust collectors, overflow from the tire tread cooler and Boiler Blowdown. Treatment of this wastewater is afforded by oil separators, a 0.7 acre settling lagoon and a straw filter.

Cooling tower Blowdown and surface runoff is discharged through outfall 003. This water is discharged untreated.

Outfall 004 (photograph #V) is supposed to discharge only surface runoff. However, there was a discharge from this outfall even though no runoff was occurring at the beginning of this investigation. There was rainfall during the morning of November 5, 1974 and runoff was reflected in the flow at the outfall.

SAMPLING PROCEDURES AND STUDY RESULTS

Outfalls 002, 003 and 004 were sampled for one day using ISCO Model 1391 automatic samplers. The samplers collected aliquots of sample at hourly intervals for a 24-hour composite sample. Grab samples were taken at the beginning and the end of the compositing period.

Outfall 001 was not discharging during the study; however, grab samples were taken from the settling pond on November 4 and 5.

Flow was measured only at outfall 002. Measuring equipment consisted of a Parshall Flume and recorder.

From the time of acquisition until the samples were hand-carried to the laboratory in Athens, all samples were kept refrigerated/preserved. Teflon tubing and teflon bottle liners were employed on samples for oil and grease and for organic analysis. Chain-of-custody was maintained on all samples.

ANALYTICAL RESULTS

The samples were prepared for organic analysis by: solvent extraction at neutral, acid and basic pH's; distillation for volatile and water soluble organics; direct aqueous injection of the water sample for organics of 0.5 mg/L and headspace analysis for volatile organics. The acid extract was also esterified with diazomethane for the organic acids. The gas chromatograph/flame ionization detector was used for screening the prepared samples and for quantitation. The compounds listed were identified using gas chromatograph/mass spectrometer system.

Two highly toxic organic compounds, isophorone and 2,3,4 trichlorophenol, in relatively low concentration were identified in the Uniroyal effluent samples. There were four other organic compounds identified that were of lower toxicity. The analytical data is in the attached tables I, II, III & IV. Table I presents the waste loadings from outfall 002. This was the only outfall where flow measurement was afforded.

CONTACTS

T. R. Cavinder, US-EPA, Athens, GA, 404-546-3117
John Guthrie, AL Water Improvement Commission
Palmer Peterson, Uniroyal, Opelika, AL

TABLE I
Waste Loadings - Outfall 002
Uniroyal
Opelika, Alabama

Station	Date 1974	Time EDT	Flow L/sec	Flow MGD	Oil & Grease mg/l	Oil & Grease kg/day	Oil & Grease lb/day	Suspended Solids mg/l	Suspended Solids kg/day	Suspended Solids lb/day	Chromium µg/l	Chromium kg/day	Chromium lb/day	Zinc µg/l	Zinc kg/day	Zinc lb/day	Nitro Propane mg/l	Nitro Propane kg/day	Nitro Propane lb/day	pH Units	Temp °C
002	11/4	1230	9.73	0.22	<5	<4.16	<9.19														
002	11/5	1230	9.73	0.22	<5	<4.16	<9.19													8.9	28
002	11/4-11/5	1230-1230	9.73	0.22				20	16.63	36.75	<50	<0.04	<0.09	83	0.07	0.15	0.12	0.10	0.22		

TABLE II
Organic Data
Uniroyal
Opelika, AL

STATION NO.	DATE OF SAMPLE	ISOPHORONE mg/L	NITRO-PROPANE mg/L	2,3,4 TRI-CHLOROPHENOL[1] mg/L	BENZO-THIAZOLE mg/L	T-BUTYL PHENOL mg/L	DI-ISOPROPYL CARBINOL[2] mg/L
001 Composited	11/4/74 1400	No organic compounds were detected in this sample by gas chromatography/					
001	11/5/74 1300	flame ionization detector					
002[3]	11/4-5/74 1230-1230	ND	0.12	ND	ND	ND	ND
003[4]	11/4-5/74 1430-1315	0.018	0.11	0.076	ND	ND	est. 1
004[5]	11/4-5/74 1500-1345	0.033	6.2	ND	0.019	0.025	est. 10

1/ Trichlorophenol is listed in the EPA proposed list of hazardous substances (F.R. of August 22, 1974)

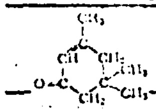
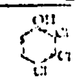
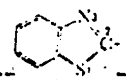
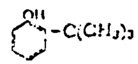
2/ This should be considered a tentative identification. No standard was available for verification or quantitation. An estimated concentration based on comparison of GC peak heights is reported.

3/ There were 3 unidentified organic compounds in the 0.001 - 0.01 mg/L range.

4/ There was one unidentified organic compound in the 0.01 to 0.05 mg/L range.

5/ Dichloromethane was tentatively identified in this sample. There were 6-10 unidentified organic compounds in the 0.001 - 0.01 mg/L range. Several of these appear to be alcohols or ethers.

TABLE III
ORGANIC COMPOUNDS IDENTIFIED
UNIROYAL
OPELIKA, AL

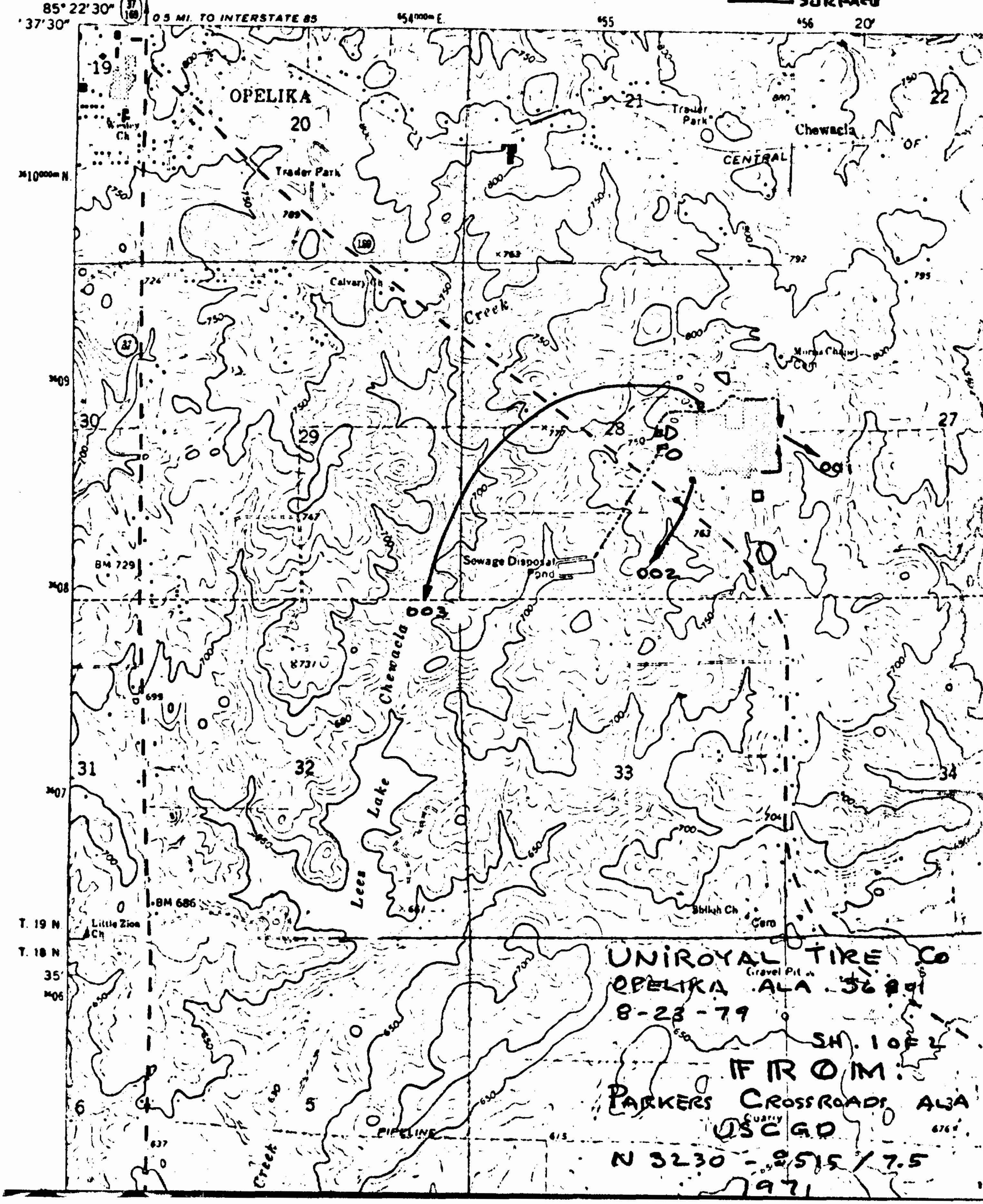
Industry or Source	Organic Compound	Conc. Found mg/L	Chemical Formula	Chemical Class	Water Solubility 1/	Human Toxicity 1/
003 and 004	isophorone			cyclic ketone	slightly soluble	[illegible]
002, 003 and 004	An isomer of nitro-propane		$CH_3CHNO_2CH_3$	nitro alkane	slightly soluble	moderate toxic
003	2,3,4 trichlorophenol			chlorinated phenol	insoluble	highly toxic
004	benzothiazole			cyclic sulfur compound	slightly soluble	may be toxic
004	An isomer of tertiary-butyl phenol			phenol	insoluble	skin irritant
003 and 004	di-isopropyl carbinol 2/		$[(CH_3)_2CH]_2$ CHOH	alcohol	slightly soluble	low toxicit

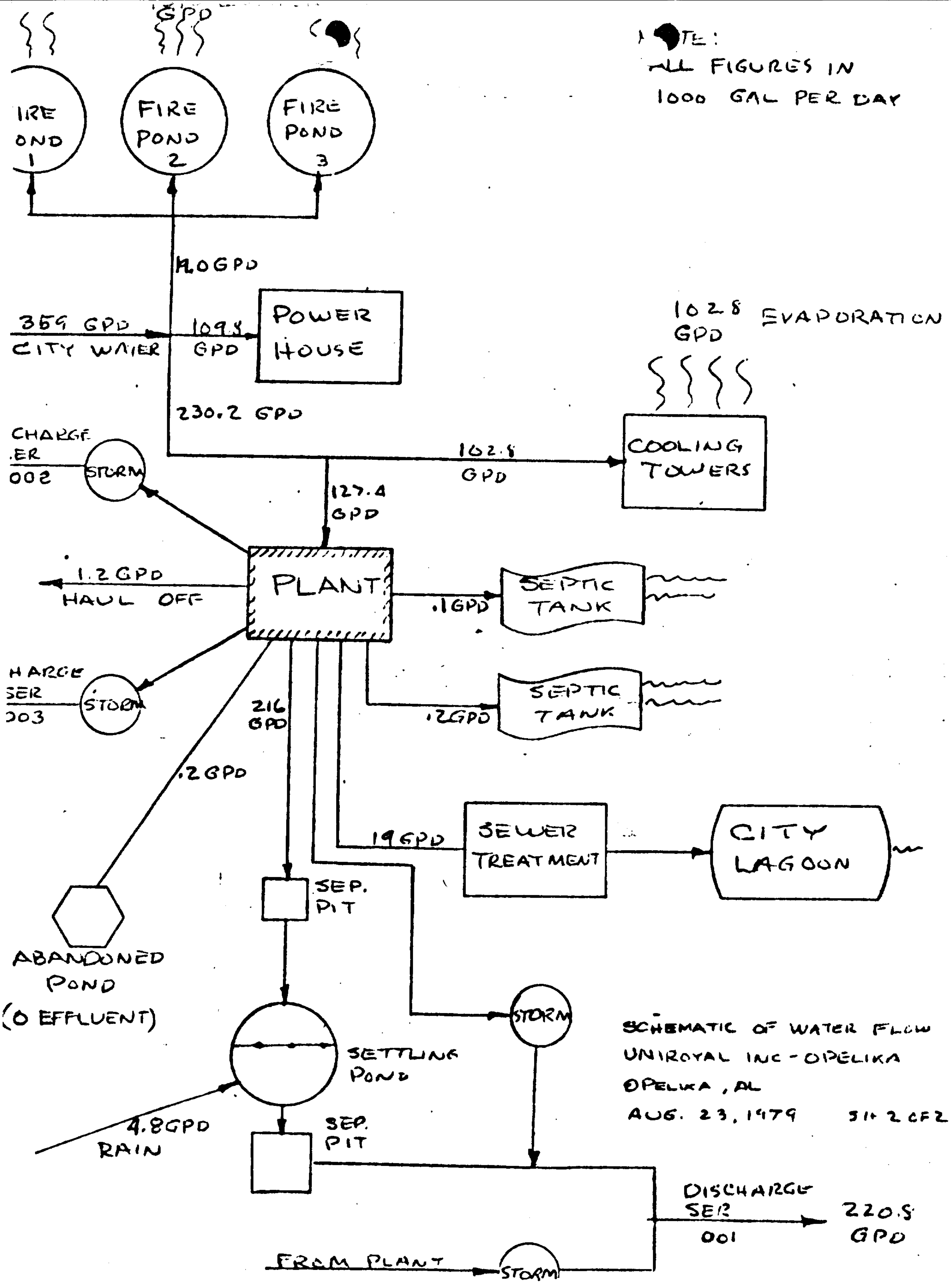
1/ The Condensed Chemical Dictionary, Van Nostrand Reinhold Company, New York, New York, 8th Ed., 1971

2/ This should be considered a tentative identification. No standard was available for verification.

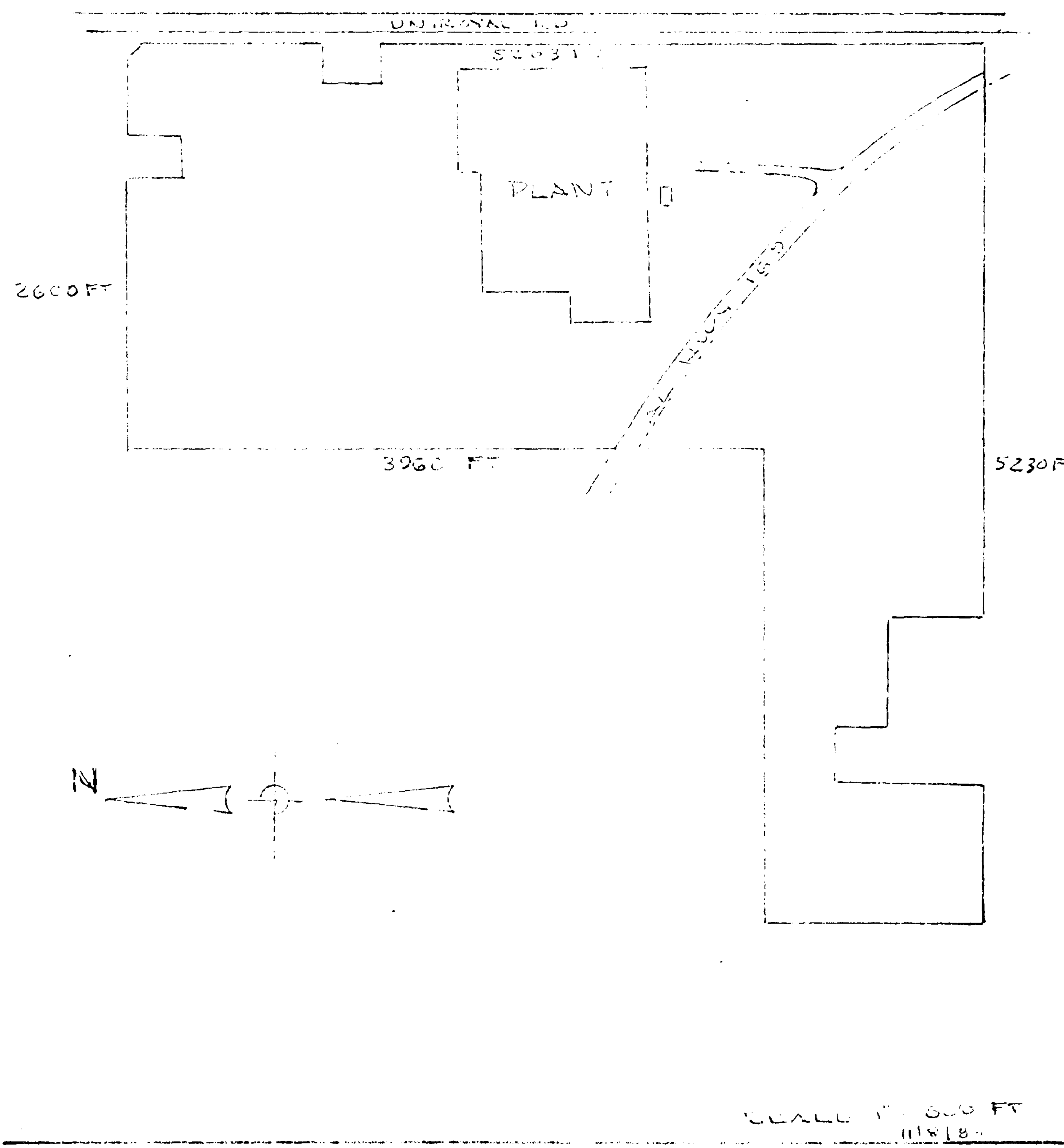
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PUMPED
SURFACE





SCHEMATIC OF WATER FLOW
UNIROYAL INC - OPELIKA
OPELIKA, AL
AUG. 23, 1979 31-2 CF2


PLANT
2600 FT
3960 FT
5230 FT
N

HARMON ENGINEERING & TESTING
SCIENTISTS · ENGINEERS · SURVEYORS
AUBURN INDUSTRIAL PARK AUBURN, ALA. 36830
205 821-9250

Client:	Uniroyal, Inc.	Project #:	166-24
	P. O. Box 30	Date :	August 11, 1980
	Opelika, AL 36801	Received :	July 28, 1980

HAZARDOUS WASTE ANALYSIS

HE&T Sample Number 1371
Sample Identification Sludge
Sample Condition on Arrival Sandy Sludge

Initial Sample wt (g)	187	Solids content of extracted sample @ 105°C	NA
Filtrate Volume (mL)	73	pH after 24 hours extraction	4.8
Sample wt extracted (g)	117.1	Filtrate recombined (mL)	9 mL/300 mL
Water added (mL)	1873.6	Filtrate pH	7.7
Initial pH (S.U.)	7.7	Final Volume (mL)	2415
		pH after acidification	<2

pH Adjustments

Time	Acid Added (mL)	pH_I	pH_F
0935	12	6.6	5.1
0950	5	5.6	5.0
1022	2	5.3	5.1
1130	5	5.7	5.1
1310	4	5.5	5.1
1410	7	5.4	5.0
1520	0	5.2	
1620	7	5.4	5.0
1000	12	5.5	5.0
1100	0	4.8	
1[illegible]20	0	4.8	
[illegible]	0	4.8	

Total Acid Added (mL) 54
Additional Water Added (mL) 414

Analysis

Parameters	Results	Units
Arsenic	<0.1	mg/L
Barium	<4	mg/L
Cadmium	<0.04	mg/L
Chromium	<0.2	mg/L
Lead	<0.2	mg/L
Mercury	<0.01	mg/L
Selenium	<0.04	mg/L
Silver	<0.2	mg/L
Lindane	<0.01	mg/L
Endrin	<0.0003	mg/L
Toxaphene	<0.01	mg/L
Methoxychlor	<0.15	mg/L
2,4-D	<0.4	mg/L
2,4,5-TP (Silvex)	<0.03	mg/L
Corrosivity	7.7	S.U.
Ignitability	NA	°F.
Reactivity		
Chemical	NA	
Physical	NA	
Thermal	NA	

Analyst Beck/Lester/Short
Quality Assurance Check MS
Approved for Transmittal [illegible]

UNIROYAL TIRE COMPANY

Master Manufacturing Specification Department

Detroit, Michigan

#A-46

Function: Solvent

Material: Sol. Blend SO149

Code: SO149

Date: 12-14-78

Issue #4 5/4/78

Supercedes

Change: Revised SOS Identity

Material Description: A low aromatic type solvent

Characteristics:

State	Liquid
	Mobile
Color	Colorless
Odor	Aromatic

Material Specifications

Percentages are weight percent unless otherwise specified	Standard	Tolerance	Method of Analysis	Test Code
Specific Gravity (60°F)	0.728	±0.007	GMI-E	B
Aromatic Content	20.0%	Max.	SM SO 141	K
Distillation Curve (°F)			ASTM D86	J
IBP	150	±10°		
50%	186	±12		
Dry Point	235	±15		
*Benzene Content, % Vol.	0.10	Max.	SM SO 141a	P

Approved Use	Yes
Tires	x
Tubes	
Flaps	x
Bike Tires	
Sundries	

Approved Suppliers:

A-7

Notes:

*Vendor must suppl[y] benzene content of e[ach] shipment on materia[l] certification sheet w[hich] will be subject to [illegible] by Uniroyal.

NOTICE: ALL SHIPMENTS MUST MEET THE SPECIFICATION AND BE IDENTICAL TO THE SAMPLE ORIGINALLY TESTED AND APPROVED. ANY CHANGE IN THE MATERIAL (SUCH AS RAW MATERIAL SOURCE, METHOD OF MANUFACTURE, OR PLANT OF MANUFACTURE) REQUIRES NOTIFICATION, RESUBMITTING SAMPLE AND APPROVAL BY THE DEVELOPMENT DEPARTMENT. ALL SHIPMENTS MUST BE COVERED BY THE MANUFACTURER'S AFFIDAVIT CERTIFYING THAT THE MATERIAL MEETS SPECIFICATION, AND MUST INCLUDE THE TEST DATA OBTAINED COINCIDENT TO THE PRODUCTION OF THE MATERIAL.

MC 55543 SUPPLIER CODE CHG (GH)

SPEC. #A-46-5

PAGE #SO149

Sp Gr.

.721 - .735

Master Manufacturing Specification Department
Detroit, Michigan

#A-46
Function: Solvent
Material: Sol. Blend SO141
Code: SO141
Date: 9-22-78
Issue 14 Supercedes 5/4/7
Change: Revised to conform to Federal June 1978 Regulatio

Material Description: An aromatic Type solvent consisting chiefly of toluene (identified internally as S. C. - 1 Solvent)

Characteristics:

State	Liquid
	Mobile
Color	Colorless
Odor	Aromatic

Material Specifications

Percentages are weight percent unless otherwise specified	Standard	Tolerance	Method of Analysis	Test Code
.8122 - .8372 Specific Gravity (60°F)	0.8247	±0.0125	GM-1-E	B
Aromatic Content	75	±5	SM-SO 141	K
Distillation Curve (°F)			ASTM D86	J
IBP 210 - 230	220	±10°		
50% 216 - 240	228	±12°		
End Point 238 - 268	253	±15°		
Dry Point 225 - 255	240	±15°		
*Benzene Content	0.0%	0.5%	SM SO 141-A	P

$$\begin{array}{r} .8247 \\ +.0125 \\ \hline .8372 \end{array} \qquad \begin{array}{r} .8247 \\ -.0125 \\ \hline .8122 \end{array}$$

NOTICE: ALL SHIPMENTS MUST MEET THE SPECIFICATION AND BE IDENTICAL TO THE SAMPLE ORIGINALLY TESTED AND APPROVED. ANY CHANGE IN THE MATERIAL (SUCH AS RAW MATERIAL SOURCE, METHOD OF MANUFACTURE, OR PLANT OF MANUFACTURE) REQUIRES NOTIFICATION, RESUBMITTING SAMPLE AND APPROVAL BY THE DEVELOPMENT DEPARTMENT. ALL SHIPMENTS MUST BE COVERED BY THE MANUFACTURER'S AFFIDAVIT CERTIFYING THAT THE MATERIAL MEETS SPECIFICATION, AND MUST INCLUDE THE TEST DATA OBTAINED COINCIDENT TO THE PRODUCTION OF THE MATERIAL.

MCSS 333 Revised to conform
To 1978 Fed. Reg. (KN)

Detroit, Michigan

Function:	Solvent
Material:	Sol. Blend SO149
Code:	SO149A
Date:	9 22 78
Supercedes	
Change:	Tentative Spec.

Material Description: A low aromatic type solvent

Characteristics:

State	Liquid
	Mobile
Color	Colorless
Odor	Aromatic

Lbs/gal at 60°F = 6.135

Material Specifications

Percentages are weight percent unless otherwise specified	Standard	Tolerance	Method of Analysis	Test Code
Specific Gravity (60°F)	0.7455	±0.0125	GM1-E	B
Aromatic Content	20.0%	Max.	SM SO 141	K
Distillation Curve (°F)			ASTM D 86	J
IBP	162	±10°		
50%	194	±12°		
Dry Point	265	±15		
Benzene Content, % Vol.	0.0	0.5	SM SO 141a	P
Reference Tests				
Kauri Butanol Value	45	±5	SM SO 141b	V

Approved Use	Yes	No
Tires	x	
Tubes		x
Flaps	x	
Bike Tires		x
Sundries		x

Approved Suppliers:

A-27.4

A-29

Notes:

*Vendor must supply benzene content of every shipment on Material Certification Sheet which will be subject to check by Uniroyal

NOTICE: ALL SHIPMENTS MUST MEET THE SPECIFICATION AND BE IDENTICAL TO THE SAMPLE ORIGINALLY TESTED AND APPROVED. ANY CHANGE IN THE MATERIAL (SUCH AS RAW MATERIAL SOURCE, METHOD OF MANUFACTURE OR PLANT OF MANUFACTURE) REQUIRES NOTIFICATION, RESUBMITTING SAMPLE AND APPROVAL BY THE DEVELOPMENT DEPARTMENT. ALL SHIPMENTS MUST BE COVERED BY THE MANUFACTURER'S AFFIDAVIT CERTIFYING THAT THE MATERIAL MEETS SPECIFICATION, AND MUST INCLUDE THE TEST DATA OBTAINED COINCIDENT TO THE PRODUCTION OF THE MATERIAL.

MC 51-333 FIRST ISSUE (RW).

SpGr. .7330 - .7580

SPEC #A-46-1
PAGE # SO149A

I/W-Uniroyal
(Lee Co.)

UNIROYAL, INC.
OPELIKA PLANT

December 6, 1979

LANDFILLS

	I TALLAPOOSA			II OPELIKA		
MONTH	LOADS	SIZE	GAL.	LOADS	SIZE	GAL.
Jan.	22		26,400	13		26,000
Feb.	11		13,200	5		10,000
Mar.	17		20,400	11		22,000
Apr.	29		34,800	13		26,000
*May	12		14,400	4		8,000
Jun.	19	1200 gal.	22,800	7	2000 gal.	14,000
Jul.	30		36,000	10		20,000
Aug.	36		43,200	11		22,000
Sept.	22		26,400	9		18,000
*Oct.	9		10,800	7		14,000
*Nov.	1		1,200	3		6,000
		TOTAL	249,600			186,000
AVG. 27,900/Month 6,443/Week 1,289/Day				AVG. 19,750/Month 4,561/Week 912/Day		

*Strike months not included in average

I. TALLAPOOSA COUNTY LANDFILL

A. Industrial Process

Gasoline - 75%
Disolved Rubber - 20%
Misc. Chemicals - 5%

(160 gals. were disposed of in this period)

B. Water Pollution Control

Water - 90%
Oil - 10%

(An estimated 173,760 gals. were disposed of in this period)

I. TALLAPOOSA COUNTY LANDFILL (Cont'd)

C. Industrial Plant Maintenance

Detergent	-	10%
Oil	-	10%
Carbon Black	-	10%
Water	-	65%
Misc.	-	5%

(An estimated 75,680 gals. were disposed of in this period)

II. OPELIKA COUNTY LANDFILL

Air Pollution Control

60% Water
40% Cured Rubber Dust

(An estimated 186,000 gals. were disposed of in this period)

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

November 20, 1979

Mr. Richard L. Schell, Environmentalist
Division of Solid Waste & Vector Control
Environmental Health Administration
State of Alabama
Department of Public Health
State Office Building
Montgomery, Alabama 36130

Dear Mr. Schell:

This is in reply to your letter of November 14, advising Uniroyal that we may no longer dispose of liquid wastes in the Tallapoosa County landfill. I have informed our sanitation personnel of this decision and directed them to comply immediately.

The suddenness of this action has left us at this time with no place to dispose of our liquid. We shall contain it in drums until a suitable method of disposal is found. It would be helpful if you would supply me with a list of approved contractors in this vicinity.

Very truly yours,

P. D. Peterson
Chief Mechanical Engineer

/eh

cc: B. C. Blasingame
J. M. Lane
R. C. Niles - Oxford
F. C. Querry - Detroit

I/W - Uniroyal Tire (Tallapoosa Co.)

November 14, 1979

Mr. P. D. Peterson
Chief Mechanical Engineer
Uniroyal Tire Company
P. O. Box 30
Opelika, Alabama 36801

Dear Mr. Peterson:

This is in reply to your October 31 letter regarding the disposal of certain liquid wastes in the Tallapoosa County landfill. We have reviewed the type and quantities of wastes reported to us in your letter and find them to be classified as potentially hazardous, particularly that of gasoline. In addition, certain oils, detergents and the like can likewise be considered hazardous material for disposal purposes.

As you know, this site is approved for domestic wastes only and not necessarily for liquid, semi-liquids and/or industrial wastes. Gasoline wastes are classified as hazardous from the standpoint (criteria) of being ignitable. Some solvents would likewise fall into this category. We, therefore, must prohibit future disposal of these wastes in the County landfill and request that we be notified of your plans and/or alternatives for future disposal methods.

If you have any questions regarding the above or we can be of further assistance to you, please feel free to contact this office.

Sincerely,

Richard L. Schell, Environmentalist
Division of Solid Waste & Vector Control
Environmental Health Administration

RLS:bw

cc: Mr. J. V. Wold
Uniroyal Tire Company

Mr. Charles M. Rooks
Tallapoosa County Engineer

Tallapoosa County Health Department

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P. O. Box 30
Opelika, Alabama 36801

October 31, 1979

RECEIVED
NOV 1 1979
ST... DI... OF SOLID WASTE & VECTOR CONTROL

Mr. Richard L. Shell
Division of Solid Waste & Vector Control
State Office Building
Montgomery, Alabama 36130

Dear Mr. Shell:

This is in reply to our telephone conversation Monday, October 29, when you asked for detailed information on liquids being placed in the Tallapoosa County landfill. Quantities from the first of the year are as follows:

January	-	33,000 gallons
February	-	31,500 gallons
March	-	33,000 gallons
April	-	43,500 gallons
May	-	43,500 gallons
June	-	18,000 gallons
July	-	21,000 gallons
August	-	52,000 gallons
September	-	51,000 gallons
October	-	33,000 gallons
Total	-	359,500 gallons or 3077 gals./day (5 day wk.)

These quantities reflect liquid waste from four (4) categories:

A. Industrial Process

Gasoline	-	75%
Disolved rubber	-	20%
Misc. chemicals	-	5%

(160 gallons were disposed of in this period.)

B. Air Pollution Control

Cured rubber dust	-	90%
Water	-	10%

(An estimated 76% or 273,600 gallons were disposed of in this period.)

C. Water Pollution Control

Water	-	90%
Oil	-	10%

(An estimated 18% or 64,800 gallons were disposed of in this period.)

D. Industrial Plant Maintenance

Detergent	-	10%
Oil	-	10%
Carbon black	-	10%
Water	-	65%
Miscellaneous	-	5%

(An estimated 6% or 21,600 gallons were disposed of in this period.)

The four (4) categories listed above are described in the "Alabama Residual Waste Survey" submitted February 2, 1978. Actual quantities are lower than those projected in the questionaire, especially Category A, where only 160 gallons were disposed of compared to an estimated 25,000 gallons. Category A liquids were mixed with other liquids being picked up and never exceeded 75 gallons at any one time in a standard 1500 gallon pickup.

We hope you will agree that because of the great percentage of water in the different categories of liquids, none are considered hazardous and we may continue our present method of disposal.

Thank you for giving me this opportunity to explain our waste disposal system. Please advise if any changes should be made.

Very truly yours,

P. D. Peterson
Chief Mechanical Engineer

/eh

cc: J. V. Vold

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

October 8, 1979

Mr. Robert Ruch
Chief AL/MS Compliance Group
Water Enforcement Branch
United States Environmental Protection Agency
345 Courtland Street
Atlanta, Georgia 30308

Dear Mr. Ruch:

This is to advise you that over the weekend of October 6, two (2) very minor spills of askarel (which contains PCB) occurred from Uniroyal transformers. Each spill is estimated to be less than 1½ gallons (18-3/4 pounds). The cause was inadequate tightening of sample valves after askerel samples were drawn by a testing contractor during annual testing. It is certain that no spilled material left the area for one spill and it is very doubtful that any material entered the main drain line of the plant industrial waste system for the other spill. This is because that although the path of the liquid indicated that it could have entered a floor drain, the slow rate of flow and the high rate of evaporation would not have permitted this small quantity to travel some 30 feet to the main drain line.

Cleanup was performed by the testing company and all spilled material, including towels, was removed from the plant site by the contractor to be disposed of by his company's authorized procedure.

The U.S. Coast Guard National Response Center was notified at approximately 8:00 AM on October 8.

Very truly yours,

P. D. Peterson
Chief Mechanical Engineer

/eh

cc: Mr. James W. Warr - AWIC ✓

A/W Uniroyal Lee Co. (Lee Co.)

September 24, 1979

Uniroyal Tire Company
Opelika, Alabama 36801

ATTENTION: Mr. P. D. Peterson

Dear Mr. Peterson:

This letter is in reference to the proposed disposal site which you and Mr. Wade Pitchford, of this office, visited on September 21, 1979. The disposal site to which we refer is located on Uniroyal's plant property, Section 28, T 19 N, R 27 E, and is to receive slit and whole tires which are presently providing a breeding habitat for mosquitos.

The above mentioned site is approved for the disposal of existing slit and whole tires under the following conditions:

(1) The disposal trench is to be located above the 800 feet msl.

(2) The disposal trench when completed shall be covered with a minimum of two feet of soil.

(3) The completed disposal site shall be graded so as to prevent ponding of surface water.

If you should have any questions regarding this letter, please contact us.

Sincerely,

Alfred S. Chipley, Director
Division of Solid Waste & Vector Control
Environmental Health Administration

ASC:GWP:bw

cc: Lee County Health Department

State of Alabama
Department of Public Health
State Office Building
Montgomery, Alabama 36130

IRA L. MYERS, M. D.
STATE HEALTH OFFICER

September 21, 1979

M E M O R A N D U M

TO: Mr. Alfred S. Chipley, Director
Division of Solid Waste & Vector Control

FROM: Mr. Wade Pitchford, Public Health Engineer GWP
Division of Solid Waste & Vector Control

RE: Site for disposal of slit and whole tires from Uniroyal, Opelika, Alabama

On September 21, 1979, the writer met with Mr. Palmer Peterson to inspect the proposed disposal site referenced above.

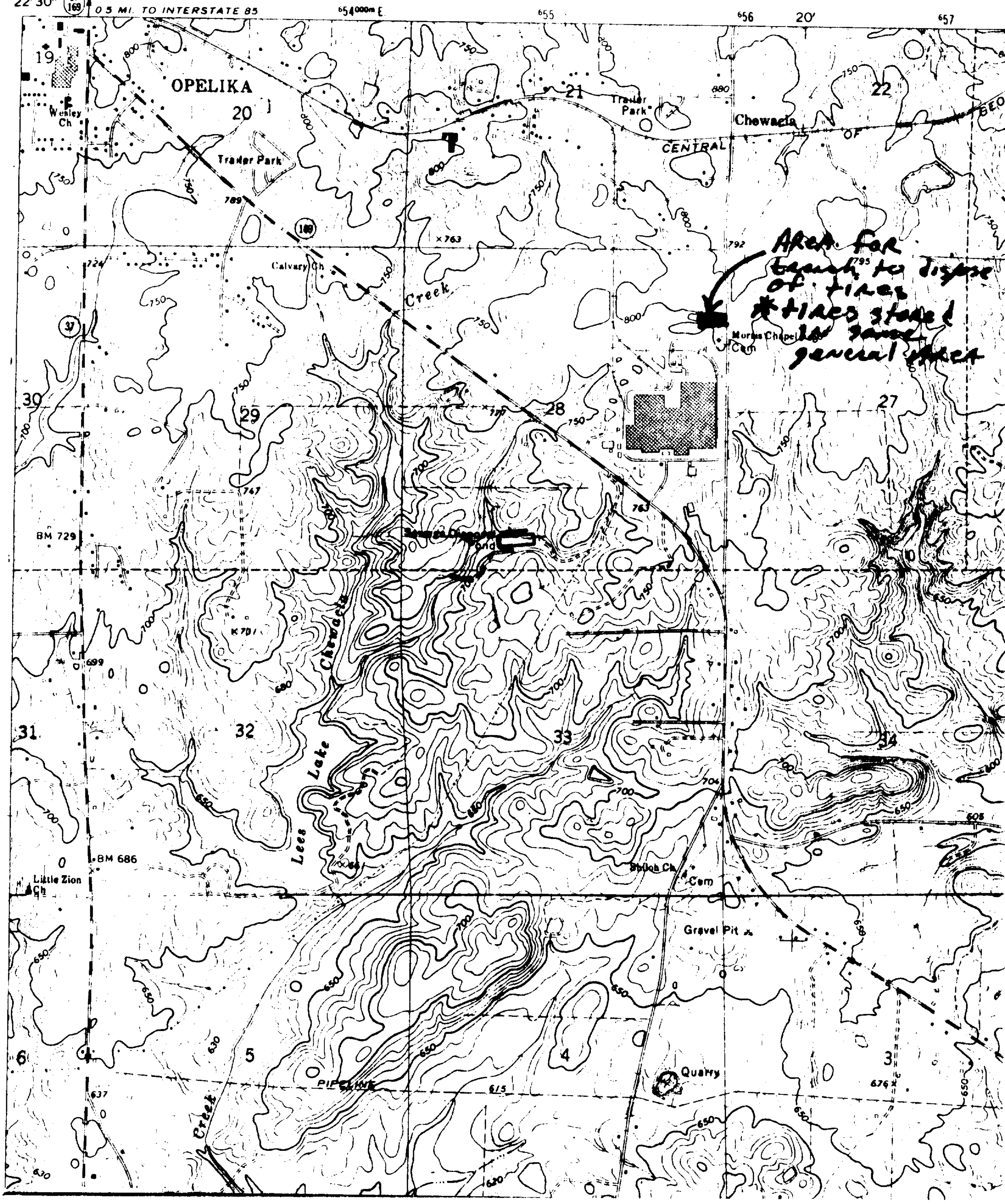
The site in question is shown on the attached topo map. The site for disposal of tires is the same area where chopped, slit and whole are presently being stockpiled. Only the slit and whole tires will be disposed. Mr. Peterson plans to excavate a trench immediately since Uniroyal has been sued by a Mr. Sullivan (mosquitos breeding in tires). It should be noted that I discussed this problem over the telephone with a Ms. Margie Sullivan on September 19, 1979.

As a result of the site inspection, I informed Mr. Peterson to proceed with disposal. The site is to be covered with a minimum of two feet of dirt and is to be sloped so as to prevent ponding of surface water.

GWP:bw

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

R 2? E
T 19N



SHW-Lee Co.
R-4

January 16, 1979

Mr. R. F. Dougherty
Technical Service Manager
Uniroyal Tire Company
P. O. Box 30
Opelika, Alabama 36801

Dear Mr. Dougherty:

We are in receipt of your letter and attached list of chemicals used in tire manufacturing, as they pertain to the wastes being disposed of in the Opelika landfill, from Uniroyal.

After reviewing the attached list, this office does not consider the amount and type of wastes generated by the plant to be such that it cannot be safely disposed of in the present landfill. However, we strongly advise and recommend that such dry wastes not be dumped loosely in the large bulk container with the other plant "trash", but that such carbon black, floor sweepings, and the like be placed in separate containers and delivered to the landfill with the understanding that landfill personnel be aware of such wastes to allow for separate disposal and/or handling at the site.

If you have any questions regarding the above or we can be of further assistance to you, please feel free to contact this office.

Sincerely,

Alfred S. Chipley, Director
Division of Solid Waste & Vector Control
Environmental Health Administration

ASC:RLS:ee

cc: Lee County Health Department

Honorable Guy Thompson, Mayor
City of Opelika

Mr. Jack White
Director of Public Works

Enclosure

Dry waste in the Opelika plant may contain the following chemicals, waxes and resins:

Carbon black	Titanium Diox.	Calcium carbonate
MBT	NuCap 100L	Carbowax 6000
DPG	Pepton 44	Tuex
DOTG	Hi Sil	Propyl Zithate
CBS	Zeolex	Calcium Stearate
Noxy	P.V.I	DiArylide Yellow
MBTS	8787 Resin	Aluminum powder
SNS	Bct. Resin	Napthol green B
Stearic Acid	PTR100 Resin	Nigrosine
Zinc Oxide	Pale Resin	Violet dye
Flexzone 7F	Escorez 1102 Resin	Blue dye
Antiox 2246	Sulfur	Red dye
Naugard Q	O.T. Crystex	Parrafin wax
Imp. Sun Wax	Vultac #5	carnauba wax
GDUE	Vanax A Pellets	Hard ground clay
1588 Resin	Antioz 425	Galex resin
N-M-P	Talc	HRV-302 resin
Cobalt Stearate	Mica	

UNIROYAL

UNIROYAL TIRE COMPANY
Division of UNIROYAL, Inc.
P.O. Box 30
Opelika, Alabama 36801

June 23, 1978

Mr. George L. Harlow
United States Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, Georgia 30308

Dear Mr. Harlow:

This is to inform you of Uniroyal plans to dredge our waste water settling pond during the annual plant shutdown, June 26 thru July 14. Pond water and whatever small amount of plant water will still be monitored and pumped to Little Uchee Creek. (No water will be discharged to Chewaulka Creek.) Dredged material will be placed in a sanitary land fill.

Please let me know if this procedure is not acceptable.

Very truly yours,

P. D. Peterson
Chief Mechanical Engineer

/eh

cc: James W. Warr
Alabama Water Improvement Commission

FDR28040

CC: Gucciardo
RGNiles-Ox
LGC-PEL
Library
JEN-2

UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.

ANALYTICAL RESEARCH LABORATORY

January 9, 1979

Opelika Effluent

J. E. Newell

Three samples of storm sewer water from Opelika have been analysed for traces of six specific compounds. The results of the analyses are:

Table I: Parts per Billion of Component

Sample / Component	"South Storm Sewer" (003)	"Opelika North Storm Sewer A-30-78" (004)	"North Storm Sewer" (004)
Nitropropane	3 ppb.	< 0.5 ppb.	0.6 ppb.
Diisopropylcarbinol	2 ppb.	0.2 ppb.	0.6 ppb.
Isophorone	2 ppb.	< 0.2 ppb.	< 0.2 ppb.
Benzothiazole	13 ppb.	1 ppb.	1 ppb.
t-Butylphenol	< 0.5 ppb.	< 0.2 ppb.	< 0.2 ppb.
Trichlorophenol	1 ppb.	1 ppb.	1 ppb.

A fourth sample from Opelika was lost in shipment. (003)

Two 2500 ml. samples of distilled water were contaminated with known amounts of each of the components. The water was then analysed by the same method as the unknown. The results were as follows:

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each discharge indicated in Section I, Item 9, that is to surface waters. This includes discharges to municipal sewerage systems in which the wastewater does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. SEPARATE DESCRIPTIONS OF EACH DISCHARGE ARE REQUIRED EVEN IF SEVERAL DISCHARGES ORIGINATE IN THE SAME FACILITY. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. Discharge Serial No. and Name
   a. Discharge Serial No. (see instructions) — 201a — 001
   b. Discharge Name Give name of discharge, if any. (see instructions) — 201b — Storm and Plant Effluent under Uniroyal road.
   c. Previous Discharge Serial No. If previous permit application was made for this discharge (see Item 4, Section I), provide previous discharge serial number. — 201c — 005
2. Discharge Operating Dates
   a. Discharge Began Date If the discharge described below is in operation, give the date (within best estimate) the discharge began. — 202a — 68 - Storm Portion; 75/3 - Effluent Portion (YR MO)
   b. Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin. — 202b — N/A (YR MO)
   c. Discharge to End Date If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. — 202c — N/A (YR MO)
3. Engineering Report Available Check if an engineering report is available to reviewing agency upon request. (see instructions) — 203 — ☐ No
4. Discharge Location Name the political boundaries within which the point of discharge is located.

				Agency Use
State	204a	Alabama	204d	
County	204b	Lee	204e	
(If applicable) City or Town	204c	N/A	204f	

5. Discharge Point Description Discharge is into (check one): (see instructions) — 205a
   - Stream (includes ditches, arroyos, and other intermittent watercourses) ☒ STR
   - Lake ☐ LKE
   - Ocean ☐ OCE
   - Municipal Sanitary Wastewater Transport System ☐ MTS
   - Municipal Combined Sanitary and Storm Transport System ☐ MCS

FORM APPROVED
OMB No. 158–R0100

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each discharge indicated in Section I, Item 9, that is to surface waters. This includes discharges to municipal sewerage systems in which the wastewater does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. SEPARATE DESCRIPTIONS OF EACH DISCHARGE ARE REQUIRED EVEN IF SEVERAL DISCHARGES ORIGINATE IN THE SAME FACILITY. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. Discharge Serial No. and Name
   a. Discharge Serial No. (see instructions) — 201a — 003
   b. Discharge Name Give name of discharge, if any. (see instructions) — 201b — Storm Run Off Northwest
   c. Previous Discharge Serial No. If previous permit application was made for this discharge (see Item 4, Section I), provide previous discharge serial number. — 201c — 004
2. Discharge Operating Dates
   a. Discharge Began Date If the discharge described below is in operation, give the date (within best estimate) the discharge began. — 202a — 1968 YR MO
   b. Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin. — 202b — N/A YR MO
   c. Discharge to End Date If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. — 202c — N/A YR MO
3. Engineering Report Available Check if an engineering report is available to reviewing agency upon request. (see instructions) — 203 — ☐ No
4. Discharge Location Name the political boundaries within which the point of discharge is located.

				Agency Use
State	204a	Alabama	204d	
County	204b	Lee	204e	
(if applicable) City or Town	204c	Opelika	204f	

5. Discharge Point Description Discharge is into (check one): (see instructions)
   - Stream (includes ditches, arroyos, and other intermittent watercourses) — 205a — ☒ STR
   - Lake — ☐ LKE
   - Ocean — ☐ OCE
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13. **Activity Description** Give a narrative description of activity producing this discharge.(see instructions)

213a Discharge water is made up of condensate; cooling tower and boiler blowdown; dust collector wash; bearing cooling and minor heating and cooling water leaks. Water is not used to produce a product or for contact heating or cooling except a small amount for cooling tank overflow and washdown.

14. **Activity Causing Discharge** For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the Instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. **Raw Materials**

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214a	(1)	(2)	(3)	(4)	(5)
	N/A	N/A	N/A	N/A	N/A

b. **Products**

	SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
214b	(1)	(2)	(3)	(4)	(5)
	3011	Rubber	700	1000	None

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13. Activity Description Give a narrative description of activity producing this discharge.(see instructions)

213a This is only a rain water run off discharge.
Water comes from NW portion of roof and grounds.

14. Activity Causing Discharge For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the Instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. **Raw Materials**

214a

SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)
N/A				

b. **Products**

214b

SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)
3011	Rubber	700	1000	None

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26. Additional Information

Item	Information
17	Present permit does not require any of these tests so no data is available. An organic scan, however, is required once a year (originally twice a year but because of low findings it was reduced to once). Chemicals tested for are:

Nitropropane	3 ppb
Diisopropylcarbinol	2 ppb
Isophorone	2 ppb
Benzothiazole	13 ppb
t Butylphenol	<.5 ppb
Trichlorophenol	1 ppb

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26. Additional Information

Item	Information
17	Present permit does not require any of these tests so no data is available. An organic scan, however, is required once a year (orginally twice a year, but because of low findings it was reduced to once). Chemical tested for are:
	Nitropropane .6 ppb
	Diisopropylcarbinol .6 ppb
	Isophorone < .2 ppb
	Benzothlazole 1 ppb
	t-Butylphenol < .2 ppb
	Trichlorophenol 1 ppb

Table II: Analysis of Known Waters

	(ppb.) Actual	(ppb.) Found	% Recovery	(ppb.) Actual	(ppb.) Found	% Recovery
Nitropropane	3.2	N.D.	0	10.0	4.6	46
Diisopropylcarbinol	1.6	0.9	57	9.8	5.6	57
Isophorone	1.5	1.3	86	10.9	11.4	105
Benzothiazole	2.8	2.9	102	9.5	9.7	102
t Butylphenol	1.4	1.5	104	9.8	9.6	98
Trichlorophenol	7.8	6.3	81	9.9	11.1	112

Table II shows that when nitropropane is below an estimated 6 ppb., it can escape detection, and that at 10 ppb. its recovery is only 46%. The results for nitropropane in Table I have been corrected for an assumed 46% recovery.

The limits of detection are usually established by the magnitude of nearby peaks in the chromatogram. When such interferences are low and peaks about two chart divisions high can be detected, the limits of detection become 0.2 ppb. for all the components except nitropropane and trichlorophenol. For trichlorophenol the limit is about 0.7 ppb. This limit probably could be reduced by using dual-column chromatography since the peak appears on the side of a steep curve caused by column bleed. The precision and accuracy (Table II) for trichlorophenol no doubt would also improve.

The method of analysis, and example chromatograms and calculations are attached.